

A survey of grassland and montane arthropods collected in the southern Okanagan region of British Columbia.

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ABSTRACT

The arthropods of the Osoyoos - Mt. Kobau area (119° 40' W, 49° 05' N) in the southern Okanagan valley of BC were surveyed in the summer of 1991. Mt. Kobau is a high ridge with south-facing slopes covered in grassland and sagebrush from valley bottom to summit. A variety of insect traps and active collecting techniques was used to obtain the greatest possible diversity of arthropod species in the samples. Collections were made in a roughly vertical transect of Mt. Kobau from 300m at Osoyoos to the summit at 1861m. Eighty-eight samples were sorted to select the greatest number of taxa possible. A total of 5566 specimens was prepared for identification and of this, 5023 were identified to species (or morphospecies) by March, 1994. We collected at least 1101 species, including 12 new distributional records for Canada, 15 new distributions for BC, 30 possible new records for Canada and 14 possible new records for BC, 2 new species, and 84 species considered rare, restricted or potentially endangered. Most of the rare species and records were found at low elevations and are typical of deserts and arid sagebrush grasslands of the Great Basin and Columbia Plateau to the south. Comparison of catches made by different collecting techniques indicates that pantraps catch the most species and are the most cost effective.

Key words: faunistics, biogeography, grassland, steppe, desert

INTRODUCTION

The Southern Okanagan Basin and Okanagan Range Ecosections in southern British Columbia (BC) (Demarchi, 1996) represent the northern limit of distribution of many plants and animals of the arid regions in the Great Basin and Columbia Basin, between the Rocky Mountains and the Cascade and Sierra Nevada ranges in the western USA (Scudder, 1992). Munro and Cowan (1947) termed this area the Osoyoos Arid Biotic Zone. Many of the plant and animal species living there occur nowhere else in Canada and this, combined with the threat of habitat loss through agricultural development and rapidly expanding urban development, have focussed the attention of conservationists on this region. The Nature trust of BC targeted it for special conservation measures and research and subsequently joined with other organizations and government agencies to create the Southern Okanagan Conservation Areas Program (SOCAP) (Erikson and Torrance, 1989). This program has evolved into the South Okanagan Conservation Strategy.

Mount Kobau is a high (1861m) ridge straddling the south Okanagan and Similkameen Valleys with south-facing slopes covered in grassland and sagebrush shrubland from valley bottom to summit. The grasslands straddle five biogeoclimatic zones: Bunchgrass, Ponderosa Pine, Interior Douglas-fir, Montane Spruce, and Engelmann Spruce-Subalpine Fir (Meidinger and Pojar, 1991). More interesting is the

fact that some of the grassland plants associated with the dry steppes of the valley bottom, such as big sagebrush (*Artemisia tridentata* Nutt.) and bitterroot (*Lewisia rediviva* Pursh), are common on the summit of Mt. Kobau. These high altitude sagebrush shrublands are rare in Canada and restricted to this immediate area. Finally, although it lies across the deep Similkameen Valley from the Cascade Mountains, earlier collections on Mt. Kobau indicate that its peak is home to some interesting invertebrate species associated with the Cascades and otherwise rare or unknown in Canada.

Some invertebrates of special interest were previously included with a list of other endangered, threatened or sensitive plant and animal species (Erickson and Torrance, 1989). That list was based primarily on historical records and observations by the authors and contributors. Most collections from the area were of specific taxonomic groups, widely scattered in space and time, and did not employ the passive trapping techniques commonly used today. We used intensive sampling to obtain a large and diverse collection of arthropods from grassland habitats in the main biogeoclimatic zones in the south Okanagan.

Our primary objective was to provide baseline information on the arthropod community of Mt. Kobau and the Osoyoos region. We used several collecting techniques to maximize the diversity of the collection. Selective sorting of the raw samples into groups that could be identified by cooperating systematists was also a concern. We sampled Mt. Kobau in a vertical transect from valley bottom to the summit obtaining specimens from the main biogeoclimatic zones.

METHODS

Site Selection. Three main trapping stations were established on the slopes of Mt. Kobau (Fig. 1; LOW, MID, HIGH). Each consisted of a Malaise trap, 6 permanent aluminum pantraps (in place from May 28-Aug. 28), and 10 additional yellow plastic pantraps. We collected May 28 - June 3, July 8 - 13, and Aug. 24 - 28, 1991.

Station LOW (E) was below Richter Pass (560m) in the Bunchgrass biogeoclimatic zone (**BGxh1**=Bunchgrass, xeric, hot) (Fig. 1). Vegetation in this area was primarily sagebrush (*Artemisia tridentata* Nutt.) with scattered clumps of bunchgrass (*Agropyron spicatum* (Pursh.)), cactus *Opuntia fragilis* (Nutt.), *Artemisia frigida* (Willd.), *Onobrychis viciifolia* Scop., *Ipomopsis aggregata* (Pursh) V. Grant, *Cynoglossum officinale* L., *Lupinus sericeus* (Pursh.), *Phacelia linearis* (Pursh.) Holz., *Balsamorhiza sagittata* (Nutt.), *Oxytropis campestris* (DC.), and a number of exotic species.

Station MID (C) was at about 990m near the road up Mt. Kobau. It was in a forb meadow near the transition of the Ponderosa Pine and Interior Douglas-fir Zones (**PPxh1**=Ponderosa Pine, xeric, hot; and **IDFxh1**=Interior Douglas Fir, xeric, hot). Common plants in this area were *L. sericeus*, *A. tridentata*, *Stipa columbiana nelsoni* (Scribn.), and various other grasses.

Station HIGH (A) was at about 1750m near the lower margin of the Engelmann Spruce/Subalpine Fir Zone (**ESSFxc**=Engelmann Spruce/Subalpine Fir, xeric, cool) and upper extent of Interior Douglas-Fir Zone (**IDFdk1**=Interior Douglas-Fir, dry, cool). Typical plants near the traps were *A. tridentata* var. *vaseyana* (Rydb.), *Hackelia micrantha* (Eastw.), and *Aquilegia flavescens* S. Wats.

In addition, yellow pantraps were placed by a roadside spring at 800m (D), and near the Osoyoos city dump (DUMP)(370m) (Fig. 1). A carrion-baited pitfall trap was at 1100m (B). Hand collecting and aerial sweeps were done at other sites on Mt. Kobau and at the Haynes Lease Ecological Reserve (300m). Light-traps, aquatic nets, and Berlese

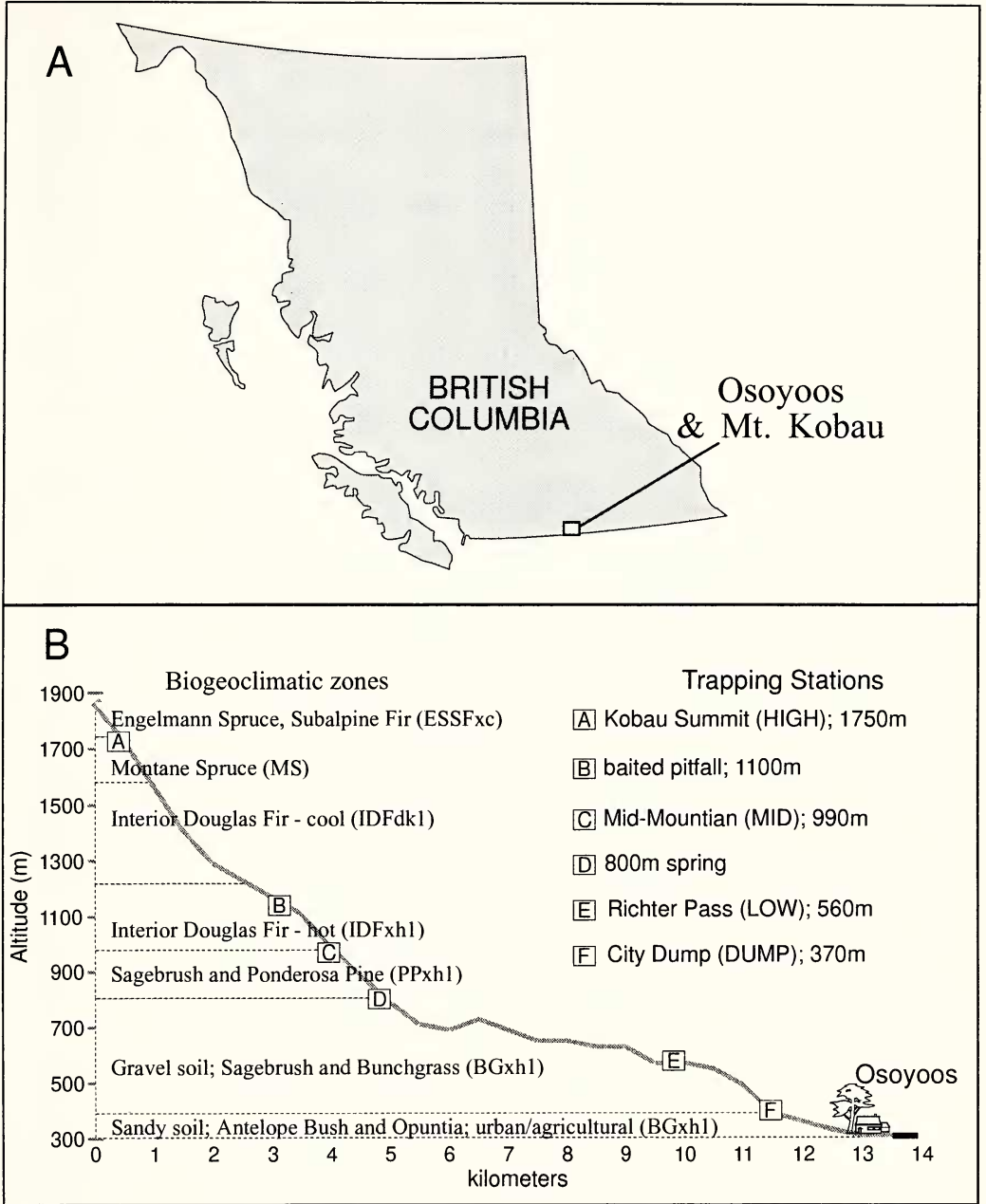


Figure 1. A) Location of study area in British Columbia. B) Stylized cross-section of Mt. Kobau transect showing approximate trap locations and habitat types. Based on topographic map 82E/4 (Keremeos) and Ministry of Environment biophysical maps 82E.002, 82E.003, and 82E.012.

funnels were also used to obtain samples. Detailed 1:20,000 scale maps of biophysical regions are published by the Wildlife Branch, Ministry of Environment, Lands and Parks, Victoria, BC.

Collecting Methods. The traps used were: Malaise traps; aluminum pantraps (25x10x10cm) set into the soil and filled with Prestone[®] antifreeze; yellow plastic pantraps (12cm diameter) filled with salt saturated water and a few drops of Sunlight[®] dishwashing liquid; a sheep's tongue-baited pitfall trap; and a portable BioQuip[®] UV light trap. At LOW MID and HIGH, a Malaise trap had two aluminum pans below the central panel to collect flying insects that drop on encountering a barrier. Four additional aluminum pantraps were placed within 5m of each Malaise trap. Ten yellow pantraps were then set in a vertical transect on a nearby steep slope. The aluminum pantraps were left in place between collecting trips, whereas the Malaise and yellow pans were reset at the beginning of each active collecting period. The Malaise traps and pantraps collected many specimens, especially nymphs of grasshoppers. Some of the samples contained over a litre of specimens. Some traps were overturned or destroyed by foraging cattle at stations D, MID and High.

In addition, we used active collecting techniques such as sweeps with aerial and aquatic nets, spot (hand) collecting, and berlese funnels.

Preparation and Identification. Specimens collected in traps and sweeps were rinsed with tap water before transfer to 70% ethanol. Spot collected specimens were killed with ethyl acetate or alcohol and pinned or preserved as required for the particular taxon (Martin, 1977).

Catches from traps were sorted selectively, groups that could be identified or were likely to contain rare or endangered species were pulled out preferentially. We subsampled by removing at least one specimen of each apparent species from every sample. Sorting was done under a dissecting microscope and only adult specimens were removed. The remaining unsorted specimens were labelled and stored in 70% ethanol at the Royal BC Museum (RBCM). Acari, Collembola, Homoptera: Sternorrhyncha, most Staphylinidae, Diptera: Nematocera, and Hymenoptera: Parasitica were not sorted further. A subsample of the Hymenoptera: Parasitica was donated to the Canadian National Collection (CNC) in Ottawa.

Some of the pinned specimens (mainly Diptera) were freeze-dried to reduce collapsing of the body during drying. Odonata were placed in envelopes either in the field or after removal from alcohol. Each specimen (or vial of specimens) was then labelled with the date and location information and given an accession number for the RBCM collection.

The prepared specimens were then identified to family and taxonomic specialists were asked to provide further identifications. The specimens were identified to the lowest practical level by specialists with only a few taxa (Psocoptera, Homoptera: Psyllidae, Siphonaptera, and Hymenoptera: Pompilidae) remaining undetermined. Taxa for which specialists were not found, or which have adequate keys, were identified by D. Blades to species or morphospecies.

Each specimen was catalogued in a computer database. This contains all information for each specimen in the format required by the Canadian Heritage Information Network (CHIN). Typically the locality (including altitude, UTM coordinates, habitat descriptions, etc.), RBCM collection information, taxonomic group, sex, and developmental stage were recorded for each specimen.

RESULTS AND DISCUSSION

Collection Characteristics. The selective sorting yielded a diverse collection, but tended to over-represent some species and under-represent others compared with the raw samples. This limits the interpretation of the data to analyses based on presence or absence of species and investigations of broad ecological patterns. Numbers of specimens therefore indicate the available pool of prepared specimens from which species were identified. Morphospecies are taxa which represent morphologically distinct entities within the collection but are not identified to a specific name. Morphospecies are useful in measures of species richness, but cannot be used for analyses of biogeographical or ecological traits.

Status of determination	Species	%	Specimens	%
Identified to species	819	74.4	4,046	72.6
Identified to morphospecies	282	25.6	977	17.6
Not identified to species			543	9.8
Total	1,101	100.0	5,566	100.0

Over 1100 probable species (or morphospecies) in 195 families from 23 orders in 5 classes of arthropods were identified. An estimated 50 to 150 species are contained in the 543 prepared specimens not yet identified and there may be another 200 to 500 additional species in residues of the unsorted raw samples.

Numbers of species and specimens were greatest in groups typical of arid grasslands and deserts (Table 1. and Appendix 1) such as Megachilidae, Sphecoidea, Vespidae, Tiphidae, Mutillidae, and Chrysidoidea, Tenebrionidae, Carabidae, Asilidae, and orthopteroid insects. Other species-rich taxa included Cicadellidae, Miridae, Elateridae, Curculionidae, Scarabaeidae, Syrphidae, Sphaeroceridae, Tachinidae, Lycaenidae, and Formicidae.

Biogeographical characteristics. The southern Okanagan and Similkameen Valleys have a distinct flora and fauna in Canada because of their geography and climate. Lying at the eastern edge of the Thompson Plateau, the valleys are an extension of the dry Great Basin and Columbia Plateau of the western USA. They are bordered on the southwest by the Cascade Mountains, and on the east by the Okanagan Highlands. The northern boundary of this ecological region is difficult to define, but Demarchi (1996) draws the border between South and North Okanagan basins just south of Penticton. Although many of the species collected in this survey are common throughout much of North America and not restricted to grassland habitats, a number of species are representative of the Intermountain grasslands to the south. This is especially true for species found below about 600m. Species collected at higher altitudes (above 1000m) are more typical of the montane and subalpine habitats found throughout much of the BC interior. Many of our species are described as restricted to sagebrush or arid grassland habitats. Only a few species found in our samples are primarily coastal or boreal species.

Species that are new records (and possible new records) for Canada and BC, and species that are rarely collected, endangered, or restricted to the south Okanagan are indicated in Appendix 1. Possible new records for Canada and BC are species for which published information indicates a record, but confirmation of the record is pending. Many of the species noted as possible new records belong to families of aculeate Hymenoptera.

Table 1

Summary of higher taxa collected near Osoyoos, BC, 1991. Numbers are based on specimens identified to species or morphospecies.

Class	Order	Families	Species	Specimens
ARACHNIDA	Solpugida	1	1	1
	Araneae	19	82	403
	Opiliones	2	2	28
CRUSTACEA	Isopoda	1	1	1
DIPLOPODA	Julida	1	1	3
	Chordeumatida	1	1	7
CHILOPODA	Lithobiomorpha	1	1	2
INSECTA	Microcoryphia	1	1	120
	Ephemeroptera	2	2	2
	Odonata	3	13	53
	Plecoptera	1	1	2
	Dermaptera	1	1	22
	Grylloptera	5	13	85
	Orthoptera	1	17	67
	Hemiptera	18	80	370
	Homoptera	8	70	393
	Raphidioptera	2	4	29
	Neuroptera	4	8	24
	Coleoptera	39	202	1108
	Diptera	39	280	1155
	Lepidoptera	14	70	252
	Trichoptera	3	4	6
Hymenoptera	28	246	890	
Totals		195	1101	5023

Some of these aculeates are listed in Krombein *et al.* (1979) as being found only in the southwestern U.S.A. (New Mexico, California, Arizona, Texas). Other aculeates like *Aphelopsis varicornis* Brues and *Aphelopsis albopictus* Ashmead are recorded from Massachusetts and Virginia, and Washington, D.C., respectively (Krombein *et al.*, 1979). If these distributions are valid, then the Okanagan records represent considerable range extensions. Most of those species in Appendix 1 that are considered rare, endangered, or restricted to the south Okanagan are listed and discussed by Scudder (1994) in his review of rare and endangered invertebrates in BC.

Table 2 summarizes the species assemblage in terms of the known range of each species in Canada as described in the literature or by the identifier. Distributions of species in Canada (and the USA) were obtained for 746 of the 819 (91.1%) named species. Most species in the collection are transcontinental or are widely distributed throughout southwestern Canada and the USA. About 20% of species have more

restricted distributions. Several species are restricted to the Okanagan valley in Canada and most of these are species characteristic of the Great Basin and Sonoran regions of the USA.

At least 36 of the species we collected are introductions to North America. Many of them are associated with cattle dung (*Cercyon* spp., *Sphaeridium* spp., *Aphodius* spp., *Onthophagus nuchicornis* L.). The ladybird beetle, *Coccinella septempunctata* (L.), was introduced for biological control projects in the eastern United States several times this century and has spread rapidly across the continent (Gordon, 1985). In 1990 the first specimens of this species were collected in BC and by 1993, Blades found it on Vancouver Island. The metallic wood-boring beetle, *Sphenoptera* sp.nr. *jugoslavica* Obenberger, and a tephritid fly, *Urophora affinis* Frauenfeld, are European species introduced to control knapweed (*Centaurea* spp.) (Story *et al.* 1984, 1987). Introduced species commonly found throughout North America included *Philaenus spumarius* (L.), *Apis mellifera* L., *Forficula auricularia* L., *Pterostichus melanarius* (Illiger), and *Pieris rapae* L..

Table 2

Distributional characteristics of species in the collection from Osoyoos and Mt. Kobau, 1991. Distributions obtained from identifiers and/or literature. Based on specimens determined to species or morphospecies.

Distribution	Species	%	Specimens	%
Widely distributed in Canada	521	47.3	2655	52.8
Found only in BC in Canada	139	12.6	752	15.0
Restricted to Okanagan in BC	35	3.2	147	2.9
Restricted to Okanagan in Canada	65	5.9	205	4.1
Unknown distribution	341	31.0	1264	25.2

The dominance of introduced species feeding on cattle dung reflects the nature of the dung itself. Dung of native vertebrates is much dryer than cattle dung and native dung feeding insects have not been particularly successful at exploiting this new resource in the dry interior of BC (MacQueen and Beirne, 1974). Of the 67 species of dung-inhabiting mites and insects listed by MacQueen and Beirne (1974), we collected at least 16. The beetle fauna (especially Histeridae and Scarabaeidae) is most similar to that found near Kamloops by MacQueen and Beirne (1974).

Altitude comparisons. Comparisons of collections at each altitude (Haynes Lease 300m; Osoyoos Dump 370m; low 380-800m; mid 801-1500m, and high 1501-1850m) showed that most species (710, 64.5%) were collected at only one elevation, 293 species (26.6%) were found at two elevations, 85 (7.7%) at three elevations, 13 (1.2%) at four, and none at all five elevations. This low overlap indicates that most species are restricted, within the Okanagan valley, to particular altitudes and associated conditions. We expected that valley bottom (below 370m; sandy soils; *Purshia tridentata*) and mountain top (above 1700m; Engelmann spruce subalpine) habitats would contain the greatest proportion of rare, endangered, and restricted species because they are effectively small islands separated from like habitats by the larger interconnected habitats of middle elevations. Too few specimens were collected at the Haynes Lease and Osoyoos dump to

compare the fauna living below 370m with the other elevations. However, when these collections are combined with other collections below 800m, some interesting patterns do emerge (Table 3.). The largest percentage of species with restricted distributions was at low elevations, whereas proportions of widespread and exotic species increase somewhat with altitude. This pattern seems to correlate with the distributions of the habitats found at each of these altitudes. Low altitude Bunchgrass/sagebrush habitat is found only in a few valleys in BC, whereas Ponderosa Pine, Douglas-fir and Engelmann/Subalpine Spruce zones are more generally distributed and occupy a greater area in south central BC.

Comparison of collecting techniques. Marshall *et al.* (1994) discuss the benefits and limitations of various collecting methods for conducting faunistic surveys of arthropods. They also note the difference between passive collecting (traps) and active collecting methods. Passive trapping relies on insect behaviour to acquire specimens whereas active collecting depends also on the skill of the collector and time of day (passive traps work continuously). Marshall *et al.* (1994) indicate that passive traps require less labour in the field and collect more cryptic species than do active collecting methods.

Table 3

Division of species, grouped by distribution, at different altitudes.

Distribution	Altitude					
	300- 800m	%	801- 1500m	%	1501- 1850m	%
Species widely distributed in Canada	428	59.8	460	66.8	262	67.3
Exotic species	24	3.3	27	3.9	17	4.4
Restricted to Okanagan in Canada or BC	95	13.2	58	8.4	24	6.2
Unknown distribution	170	23.7	144	20.9	86	22.1

A total of 234 species (21.3%) was found only in active collections compared to 654 species (59.4%) caught exclusively in traps. Only 213 species (19.3%) were present in both active and passive collections. Pantraps collect a more diverse sample than Malaise traps (Table 4). One quarter of all species collected were not found in either Malaise or pantraps. Although traps collect more species, they may be biased in their representation of the fauna.

Other experimental comparisons of various collecting techniques measure efficacy in terms of number of specimens caught per order or family (Canaday, 1987; Disney *et al.*, 1982) and generally indicate that white or yellow pantraps collect the largest number of higher taxa and specimens. These quantitative comparisons do not address either the species diversity or the quality of the catch. In our study, quality of the catch relates to the species diversity, composition, and presence of rare or endangered species.

Pantraps yielded a greater proportion of rare and restricted species than the other methods. Eighty-four species restricted to the Okanagan or considered rare were caught in pantraps, whereas only 41 were found in Malaise samples and 33 in other collections. Fifty-five of these species were found exclusively in pantraps as compared to 18 in Malaise traps and 16 by other sampling methods.

Table 4

Division of species among Malaise traps, pantraps and other collecting techniques.

Occurrence of species	Species	%	Specimens	%
Found only in Malaise traps	135	12.3	240	4.8
Found in Malaise and other*	52	4.7	289	5.8
Found only in pantraps	341	31.0	1155	23.0
Found in pantraps and other*	104	9.4	1028	20.4
Found only in pantraps and Malaise	103	9.4	597	11.9
Found in pantraps, Malaise and other*	83	7.5	1148	22.8
Not found in pantraps or Malaise	283	25.7	566	11.3

* Other collecting techniques include sweep net, spot collections, aquatic net, Berlese funnel, baited pitfalls, and light traps.

Many species in pantrap samples belonged to taxa that were difficult to identify to known species. About 56% of all morphospecies were caught in pantraps whereas the Malaise and other samples each contained less than 39% of all morphospecies. This is probably because earlier collectors paid more attention to conspicuous aerial fauna than to cryptic soil and surface dwelling arthropods (Marshall *et al.*, 1994).

In terms of the cost of materials, collecting effort, sample diversity and quality, pantrapping is the most efficient single sampling technique. However, the large sample volumes and debris do increase sorting and preparation time compared with most other techniques, as noted by Marshall *et al.* (1994).

Summary and Conclusions. Our objective, to document the arthropod fauna of the Osoyoos/Mt. Kobau region, was accomplished but the species list (Appendix 1) represents only a fraction of all the arthropods of the area. This information is important for at least four reasons. First, the number of new distributional records and rare, restricted and endangered species collected, has added significantly to our understanding of the arthropod fauna of this unique habitat in Canada. Second, the database can act as a model for comparisons with future surveys of this study site and others. Third, the collection serves as a taxonomic reference for future studies and is also a source of information for natural history and community ecology studies. This information could also help to develop a habitat monitoring and management plan for the south Okanagan valley.

Several species previously reported from this area (Erickson and Torrance, 1989), were not found, and more collecting is required to assess the total complement of species (Danks, 1979). Ideally, long-term trapping stations (i.e. trap collections made throughout the year and from year to year) supplemented by spot collections and more examination of historical collections are needed. This approach would provide more than a "snapshot" of the fauna and may be more valuable to other research and land management decisions. Research on climatic change, effects of human activity, and ecology of the region's flora and fauna could all draw upon such a study. Coordination with studies of the flora, non-arthropod fauna, and physical aspects of the region would assist with the development of conservation strategies and habitat management policies.

If similar studies on the arthropod fauna are planned for the southern Okanagan near Osoyoos, there are a number of locales, both natural and disturbed, to consider. Undisturbed areas include Anarchist Mountain, Kilpoola Lake/Mt. Kruger, Chopaka, and

regions representing the original riparian, spring, and alkaline lake habitats. These areas could be compared with similar adjacent, but developed, locales. This would provide information on the effects of human activity on the arthropod assemblages and would complement similar studies of other fauna and flora.

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APPENDIX 1: LIST OF TAXA

The higher taxa listed below are arranged in phylogenetic order of class, order, and family following the schemes used by Danks (1979), and Platnick (1993). Species names appear in alphabetic order within each family. Distribution and natural history information on which records, possible records, and status indicators are based was provided by the identifiers and/or synoptic catalogs and other literature sources. These sources included Dondale and Redner (1976, 1978, 1982, 1990), Cannings and Stuart (1977), Vickery and Kevan (1985), Hatch (1953, 1957, 1961, 1965, 1971), Anderson and Peck (1985), Stone et. al. (1965), Krombein *et al.* (1979), Stephens (1957), Leech and Brown (1994), Lariviere (1994), Marshall and Wheeler (1991), Marshall and Smith (1990), Marshall (1986), McGuffin (1972), Hamilton (1972, 1975), Platnick and Dondale (1992), Leech (1972), Beirne (1956), Kelton (1955), Gregg (1963), Wheeler (1963), Richardson (1905), Slater and Barankowski (1978), Bright (1987), Bousquet (1991), Teskey (1990), Cole (1969), Vockeroth (1991), Goulet (1992), Brown (1990), Sharplin (1966), Cannings (1989), Scudder (1994), Story and Nowierski (1984), Story *et al.* (1987), and Gordon (1985).

Abbreviations and explanation of codes:

nr. = near
 prob. = probably
 poss. = possible
 sp. = one species
 spp. = more than one species
 sp.grp. = species group

Status of taxon:

x = exotic (introduced)
 † = rare, endangered, or restricted
 1 = found only in Okanagan in Canada
 2 = found only in Okanagan in British Columbia
 3 = found only in BC in Canada

N = number of specimens

Elevation: L = collections from 300 to 800m; trapping station at 560m
 M = collections from 801 to 1500m; trapping station at 990
 H = collections from 1501 to 1850m; trapping station at 1760m

Record: NSP = New species
 Cdn = First published record of taxon in Canada
 Cdn? = Possible first published record of taxon in Canada
 BC = First published record of taxon in British Columbia
 BC? = Possible first published record of taxon in British Columbia

Taxon	Elevation	N	Record	Taxon	Elevation	N	Record
ARACHNIDA				<i>Erigone aletis</i> Crosby & Bishop	LH	2	
SOLPUGIDA				† 1 <i>Erigone dentosa</i> O.P.-Cambridge	L	1	BC
Eremobatidae				3 <i>Erigone</i> sp.nr. <i>blaesa</i> Crosby & Bishop	H	1	
† 2 <i>Eremobates</i> sp.	L	1		<i>Sciastes truncatus</i> (Emerton)	H	1	
ARANEAE				3 <i>Walckenaeria tricornis</i> (Emerton)	L	1	
Antrodiaetidae				Tetragnathidae			
† 1 <i>Antrodiaetus hageni</i> (Chamberlin)	H	3		<i>Tetragnatha</i> sp.	M	2	
Theridiidae				Araneidae			
<i>Dipoena nigra</i> (Emerton)	L	1		<i>Araniella displicata</i> (Hentz)	MH	4	
<i>Enoplognatha marmorata</i> (Hentz)	MH	2		x <i>Argiope trifasciata</i> (Forsk.)	L	3	
x <i>Enoplognatha ovata</i> (Clerck)	L	3		<i>Metepeira grandiosa</i> (Chamb. & Ivie)	L	1	
<i>Euryopsis</i> sp.grp. <i>funbris</i> (Hentz)	LM	4		Unidentified Araneidae	M	1	
<i>Latrodectus hesperus</i> Chamb. & Ivie	L	2		Lycosidae			
x <i>Steatoda albomaculata</i> (De Geer)	M	5		<i>Alopecosa aculeata</i> (Clerck)	LMH	21	
3 <i>Steatoda hespera</i> Chamberlin & Ivie	M	1		<i>Alopecosa kochi</i> (Keyserling)	M	1	
<i>Theridion neomexicanum</i> Banks	M	3		<i>Hogna frondicola</i> (Emerton)	LM	3	
Unidentified Theridiidae	M	1		† 2 <i>Pardosa altamontis</i> Chamberlin & Ivie	L	1	
Linyphiidae				† 1 <i>Pardosa coloradensis</i> Banks	LH	16	
3 <i>Collinsia ksenia</i> (Crosby & Bishop)	H	4		<i>Pardosa concinna</i> (Thorell)	H	2	

Taxon	Elevation	N	Record	Taxon	Elevation	N	Record
<i>Pardosa dorsalis</i> Banks	MH	29		<i>Phidippus johnsoni</i> (Peckh. & Peckh.)	LM	9	
<i>Pardosa groenlandica</i> (Thorell)	L	4		<i>Phidippus</i> sp.	M	1	
<i>Pardosa moesta</i> Banks	L	1		3 <i>Sassacus papenhoei</i> Peckh. & Peckh.	L	3	
<i>Pardosa</i> sp.	LMH	11		<i>Synageles occidentalis</i> Cutler	L	1	
† 3 <i>Pardosa wyuta</i> Gertsch	LH	4		<i>Tutelina similis</i> (Banks)	MH	2	
<i>Schizocosa mccooki</i> (Montgomery)	LM	78		Unidentified Salticidae	LM	19	
Unidentified Lycosidae	LM	2		Anyphaenidae			
Agelenidae				<i>Anyphaena pacifica</i> (Banks)	M	1	
† 1 <i>Agelenopsis oklahoma</i> (Gertsch)	LM	7		OPILIONES			
<i>Agelenopsis</i> sp.	L	1		Phalangidae			
Hahniidae				<i>Leiobunum paessleri</i> (Roewer)	M	1	
3 <i>Cryphoea exlineae</i> Roth	M	1		Gagrellidae			
Dictynidae				<i>Togwoteus biceps</i> (Thorell)	LMH	27	
<i>Dictyna major</i> Menge	H	2		CRUSTACEA			
† 1 <i>Emblyna borealis cavernosa</i> Jones	M	1	BC	ISOPODA			
† 1 <i>Emblyna reticulata</i> Gertsch & Ivie	L	1	BC	Porcellionidae			
Amaurobiidae				x <i>Porcellio scaber?</i> Latreille	L	1	
3 <i>Callobius canada</i> (Chamberlin & Ivie)	H	1		DIPLOPODA			
<i>Callobius</i> sp.	M	1		JULIDA			
Titanoecidae				Parajulidae			
<i>Titanoeca nigrella</i> (Chamberlin)	L	1		Parajulidae sp.	M	3	
<i>Titanoeca</i> sp.	L	1		CHORDEUMATIDA			
Oxyopidae				Conotylidae			
<i>Oxyopes scalaris</i> Hentz	L	6		<i>Conotyla</i> sp.	LM	7	
Clubionidae				CHILOPODA			
2 <i>Cheiracanthium inclusum</i> (Hentz)	L	1		LITHOBIOMORPHA			
Corinnidae				Lithobiidae			
† 2 <i>Castianeira alteranda</i> Gertsch	L	3	BC	<i>Lithobius</i> sp.?	LM	2	
† 3 <i>Casianeira walsinghami</i> (O.P.-Cambr.)	M	1		INSECTA			
Gnaphosidae				MICROCORYPHIA			
† 3 <i>Callilepis eremella</i> Chamberlin	LM	2		Machilidae			
<i>Drassodes neglectus</i> (Keyserling)	LM	6		<i>Petrobius?</i> sp.	LM	120	
<i>Drassodes</i> sp.	LM	3		EPHEMEROPTERA			
<i>Drassyllus lamprus</i> (Chamberlin)	L	2		Baetidae			
† 1 <i>Gnaphosa californica</i> Banks	L	4		<i>Callibaetis</i> sp. (subimago)	L	1	
<i>Gnaphosa muscorum</i> (L. Koch)	LM	8		Heptageniidae			
<i>Gnaphosa</i> sp.	LM	3		<i>Cinygmula</i> sp.?	L	1	
<i>Haplodrassus signifer</i> (C.L. Koch)	M	1		ODONATA			
<i>Micaria coloradensis</i> Banks	M	2		Coenagrionidae			
<i>Micaria riggsi</i> Gertsch	H	1		<i>Amphiagrion abbreviatum</i> (Selys)	L	2	
<i>Micaria rossica</i> Thorell	H	2		† <i>Argia vivida</i> Hagen	L	1	
<i>Nodocion rufithoracicus</i> Worley	L	1		<i>Enallagma boreale</i> Selys	LM	2	
<i>Orodassus</i> sp.	M	1		<i>Enallagma carunculatum</i> Morse	L	4	
<i>Sergiolus montanus</i> (Emerton)	M	1		<i>Enallagma clausum</i> Morse	M	1	
<i>Zelotes fratris</i> Chamberlin	L	2		<i>Enallagma cyathigerum</i> (Charpentier)	LMH	27	
<i>Zelotes puritanus</i> Chamberlin	LM	20		Aeshnidae			
Unidentified Gnaphosidae	LMH	5		3 <i>Aeshna californica</i> Calvert	L	1	
Philodromidae				<i>Aeshna interrupta</i> Walker	M	1	
<i>Philodromus cespitum</i> (Walckenaer)	L	2		Libellulidae			
<i>Philodromus rufus pacificus</i> Banks	M	2		3 <i>Libellula forensis</i> Hagen	L	6	
<i>Philodromus</i> sp.	LM	4		<i>Libellula quadrimaculata</i> Linnaeus	L	1	
<i>Tibellus</i> sp.	M	1		<i>Sympetrum corruptum</i> (Hagen)	L	1	
Thomisidae				<i>Sympetrum madidum</i> (Hagen)	M	1	
<i>Misumenops celer</i> (Hentz)	L	1		<i>Sympetrum occidentale</i> Bartenev	LM	5	
<i>Misumenops</i> sp.	LM	4		PLECOPTERA			
† 2 <i>Thanatus altimontis</i> Gertsch	L	2	BC	Perlodidae			
<i>Thanatus formicinus</i> (Clerck)	LM	9		<i>Isoperla</i> sp.	H	2	
<i>Xysticus benefactor</i> Keyserling	MH	3		DERMAPTERA			
<i>Xysticus cunctator</i> Thorell	LMH	17		Forficularidae			
<i>Xysticus luctuosus</i> (Blackwall)	H	1		x <i>Forficula auricularia</i> Linnaeus	LM	22	
<i>Xysticus</i> sp.	LM	4		GRYLLOPTERA			
Salticidae				Raphidophoridae			
<i>Evarcha hoyi</i> (Peckham & Peckham)	M	3		<i>Ceuthophilus agassigii</i> (Scudder)	M	12	
† 3 <i>Habronattus hirsutus</i> (Peckh. & Peckh.)	L	3		3 <i>Ceuthophilus alpinis?</i> Scudder	M	1	
† <i>Habronattus sansonii</i> (Emerton)	LM	28		<i>Ceuthophilus fusiformis</i> Scudder	LM	6	

Taxon	Elevation	N	Record	Taxon	Elevation	N	Record
3 <i>Pristoceuthophilus pacificus?</i> (Thomas)	LH	5		<i>Geocoris atricolor</i> Montandon	L	1	
Prophalangopsidae				<i>Geocoris pallens</i> Stal	LH	4	
3 <i>Cyphoderris monstrosa</i> Uhler	M	5		<i>Geocoris</i> sp.	L	1	
Tettigoniidae				<i>Megalonotus sabulicolus</i> (Thomson)	L	1	
3 <i>Anabrus longipes?</i> Caudell	M	1		† 1 <i>Neosuris castanea</i> (Barber)	L	2	
<i>Anabrus simplex?</i> Haldemann	M	1		<i>Nysius</i> sp.	LMH	38	
3 <i>Steiroxys</i> sp.	L	11		† 3 <i>Sisamnes claviger</i> (Uhler)	LM	17	
Oecanthidae				<i>Slaterobius insignis</i> (Uhler)	LMH	18	
2 <i>Oecanthus nigricornis</i> F. Walker	LM	14		Berytidae			
<i>Oecanthus quadripunctatus</i> Beuten.	L	1		<i>Jalysus wickhami</i> Van Duzee	M	2	
Gryllidae				<i>Neides muticus</i> (Say)	LMH	6	
<i>Allonemobius allardi?</i> (Alex. & Thom.)	L	1		Tingidae			
<i>Gryllus pennsylvanicus</i> Burmeister	L	2		<i>Acalypta lillianus</i> Torre-Bueno	L	1	
<i>Gryllus veletis</i> (Alexander & Bigot)	L	25		Reduviidae			
Unidentified Gryllidae	L	9		<i>Fitchia aptera</i> Stal	L	3	
ORTHOPTERA				<i>Rhynocoris ventralis</i> (Say)	L	1	
Acrididae				Nabidae			
<i>Arphia pseudonietana</i> (Thomas)	L	1		<i>Nabicula vanduzeei</i> (Kirkaldy)	M	1	
3 <i>Buckellacris chilcotinae</i> (Hebard)	M	2		<i>Nabis alternatus</i> Parshley	LMH	13	
<i>Camnula pellucida</i> Scudder	L	1		<i>Nabis rufusculus</i> Reuter	H	3	
<i>Chloea abdominalis?</i> (Thomas)	L	1		<i>Pagasa fusca</i> (Stein)	L	1	
<i>Dissosteira carolina</i> (Linnaeus)	L	1		Unidentified Nabidae	MH	4	
<i>Melanoplus alpinus</i> Scudder	H	1		Miridae			
<i>Melanoplus bivittatus</i> (Say)	L	14	x	<i>Adelphocoris lineolatus</i> (Goeze)	LM	9	
<i>Melanoplus borealis</i> (Fieber)	M	1		<i>Adelphocoris rapidus</i> (Say)	M	5	
3 <i>Melanoplus cinereus</i> Scudder	L	8	x	<i>Capsus ater</i> (L.)	M	2	
<i>Melanoplus femurrubrum</i> (DeGeer)	L	1		<i>Ceratocapsus</i> sp.	L	8	
<i>Melanoplus sanguinipes</i> (Fabricius)	LM	24		<i>Chlamydatus associatus</i> (Uhler)	L	2	
3 <i>Metator nevadensis</i> (Bruner)	L	1		<i>Chlamydatus obliquus</i> (Uhler)	LMH	7	
3 <i>Pseudomopala brachyptera</i> (Scudder)	L	3		<i>Chlamydatus pallidicornis</i> Knight	L	2	
<i>Spharagemon equale</i> (Scudder)	L	4		<i>Chlamydatus pullus</i> (Reuter)	H	1	
3 <i>Trimerotropis gracilis</i> (Thomas)	M	1		1 <i>Chlamydatus schuhi</i> Knight	L	8	
3 <i>Xanthippus corallipes buckelli?</i> Hebard	L	2		<i>Coquillettia insignis</i> Uhler	L	1	
3 <i>Xanthippus vitellinus?</i> Saussure	L	1		<i>Deraeocoris brevis</i> (Uhler)	LMH	4	
HEMIPTERA				<i>Europiella</i> sp.	LH	12	
Thyreocoridae				<i>Hadronema militare</i> Uhler	M	1	
<i>Corimelaena extensa</i> Uhler	LMH	12		† 2 <i>Irbisia shulli</i> Knight	M	2	
Cydnidae				<i>Labops hesperius</i> Uhler	MH	4	
† <i>Amnestus pallidus</i> Zimmer	L	2		<i>Leptopterna ferrugata</i> (Fallen)	MH	2	
Pentatomidae				<i>Litomiris curtus</i> (Knight)	LMH	7	
<i>Chlorochroa granulosa</i> (Uhler)	LM	15		<i>Lygus borealis</i> (Kelton)	M	2	
<i>Chlorochroa uhleri</i> (Stal)	L	1		<i>Lygus elisus</i> Van Duzee	L	3	
<i>Holcostethus abbreviatus</i> Uhler	L	1		3 <i>Lygus hesperus</i> Knight	L	3	
<i>Holcostethus tristis</i> (Van Duzee)	M	6		<i>Lygus nigropallidus</i> Knight	H	1	
<i>Perillus exaptus</i> (Say)	M	1		<i>Lygus robustus</i> (Uhler)	H	11	
<i>Prionosoma podopoides</i> Uhler	L	2		<i>Lygus shulli</i> Knight	M	1	
Scutelleridae				<i>Lygus solidaginis</i> (Kelton)	M	2	
<i>Eurygaster</i> sp.	M	1		<i>Melanotrichus</i> sp.	LMH	3	
<i>Homaemus aeneifrons consors</i> Uhler	LM	13		<i>Parthenicus</i> sp.	L	2	
Acanthosomatidae				<i>Phytocoris</i> sp.	LM	10	
<i>Elasmucha lateralis</i> (Say)	M	2		<i>Plagiognathus</i> sp.	LMH	14	
Coreidae				<i>Polymerus diffusus</i> (Uhler)	H	1	
<i>Coriomeris humulis</i> (Uhler)	M	1		<i>Polymerus rufipes</i> Knight	H	1	
Rhopalidae				<i>Prepops</i> sp.	H	1	
<i>Arhyssus</i> sp.	LM	4		3 <i>Pronotocrepis clavicornis</i> Knight	M	1	
<i>Harmostes reflexulus</i> (Say)	M	3		<i>Psallus piceicola</i> Knight	M	1	
<i>Liorhyssus hyalinus</i> (Fab.)	L	1		<i>Slaterocoris</i> sp.	L	1	
<i>Stictopleurus punctiventris</i> (Dallas)	MH	2		<i>Stenodema pilosipes</i> Kelton	LMH	15	
Alydidae				Anthocoridae			
<i>Alydus pluto</i> Uhler	M	1		<i>Orius tristicolor</i> (White)	LM	10	
<i>Tollius curtulus</i> (Stal)	M	1		<i>Tetraphleps uniformis</i> Parshley	H	1	
Lygaeidae				Saldidae			
† 1 <i>Botocudo modestus</i> (Barber)	L	1	Cdn	<i>Saldua</i> sp.	L	2	
<i>Crophius bohemani</i> (Stal)	H	1		Gerridae			
<i>Emblethis vicarius</i> Horvath	LM	12		<i>Gerris buenoi</i> Kirkaldy	H	1	

Taxon	Elevation	N	Record	Taxon	Elevation	N	Record
<i>Gerris incurvatus</i> Drake & Harris	H	1		<i>Scaphytopius acutus</i> (Say)	L	2	
<i>Gerris remigis</i> Say	H	6		† 1 <i>Scaphytopius diabolus</i> (Van Duzee)	LH	5	
Unidentified Gerridae	H	8		3 <i>Sorhoanus debilis</i> (Uhler)	LMH	25	
Notonectidae				3 <i>Texananus oregonus</i> (Ball)	L	1	
<i>Notonecta kirbyi</i> Hungerford	H	3		3 <i>Texananus proximus</i> Crowder	L	1	
HOMOPTERA				† 1 <i>Unoka</i> sp.nr. <i>gilletti</i> Metcalf	L	8	
Cicadidae				<i>Xerophloea zionis</i> Lawson	L	1	
<i>Okanagana occidentalis</i> (Walker)	M	3		Delphacidae			
† <i>Okanagana vanduzeei</i> Distant	L	1		<i>Javasella</i> sp.	M	1	
Cercopidae				<i>Laccocera vanduzeei</i> Penner	MH	3	
<i>Aphrophora permutata</i> Uhler	LM	8		<i>Liburnia</i> sp.	MH	3	
x <i>Philaenus spumarius</i> (Linnaeus)	LM	9		† 1 <i>Prokelisia salina</i> (Ball)	L	9	
Membracidae				Cixiidae			
<i>Ceresa inermis</i> Fabricius	L	2		<i>Oliaris</i> sp.	L	1	
Cicadellidae				Dictyopharidae			
3 <i>Aceratagallia californica</i> (Baker)	LM	10		<i>Scolops abnormis</i> Ball	L	3	
† 1 <i>Aceratagallia okanagana</i> Hamilton	L	1	NSP	<i>Scolops angustata</i> Uhler	L	1	
2 <i>Aceratagallia siccifolius</i> (Uhler)	LM	12	BC?	Issidae			
<i>Aceratagallia</i> sp.	L	2		<i>Bruchomorpha beameri</i> Doering	LM	8	
2 <i>Aceratagallia uhleri</i> (Van Duzee)	H	1	BC?	RAPHIDIOPTERA			
† 1 <i>Aceratagallia zacki</i> Hamilton	L	2	NSP	Raphidiidae			
<i>Aphrodes</i> sp.	L	1		<i>Agulla adnixa</i> (Hagen)	H	23	
<i>Auridius auratus</i> (Gillette & Baker)	H	1		<i>Agulla arizonica</i> (Banks)	M	2	
<i>Auridius</i> sp.	M	2		<i>Agulla bicolor</i> (Albarda)	L	3	
<i>Balclutha neglecta</i> (DeLong & David.)	L	7		Inocellidae			
<i>Balclutha punctata</i> (Thunberg)	LMH	10		† 1 <i>Negha inflata</i> (Hagen)	M	1	Cdn
† 1 <i>Ballana callipera</i> DeLong	LM	3	Cdn	NEUROPTERA			
† 2 <i>Carsonus aridus</i> (Ball)	LH	21		Coniopterygidae			
<i>Chlorotettix unicolor</i> Fitch	L	2		<i>Coniopteryx</i> sp.?	M	1	
3 <i>Colladonus geminatus</i> (Van Duzee)	LMH	10		Myrmeleontidae			
3 <i>Colladonus reductus</i> (Van Duzee)	L	1		<i>Brachynemurus</i> sp.1	L	1	
<i>Colladonus</i> sp.	H	1		<i>Brachynemurus</i> sp.2	L	4	
<i>Cuerna cuesta</i> Hamilton	LM	9		Hemerobiidae			
<i>Dikraneura</i> sp.	H	2		<i>Hemerobius dorsatus</i> Banks	H	6	
<i>Dikraneura variata</i> Hardy	LMH	30		<i>Hemerobius neadelphus</i> Gurney	M	3	
<i>Diplocolenus brevoir</i> Ross & Hamilton	LMH	16		<i>Wesmaelius coloradensis</i> Banks	MH	4	
x <i>Doratura stylata</i> (Boheman)	L	1		Chrysopidae			
<i>Empoasca columbiana</i> Hamilton	L	1		<i>Chrysopa oculata</i> Say	H	4	
<i>Empoasca filamenta</i> DeLong	LMH	18		† 1 <i>Eremochrysis punctinervis</i> ? McLaugh.	M	1	
3 <i>Empoasca nigra</i> Gillette & Baker	LMH	9		Unidentified Chrysopidae	M	1	
<i>Empoasca rossi</i> Hamilton	L	1		COLEOPTERA			
3 <i>Empoasca typhlocyboides</i> Gill. & Bkr.	LMH	26		Cupedidae			
† 1 <i>Errhomus calvus</i> Oman	M	1		3 <i>Priacma serrata</i> LeConte	M	2	
<i>Euscelis alpinus</i> Ball	H	2		Cicindelidae			
<i>Euscelis</i> sp.	L	4		<i>Cicindela nebraskana</i> Casey	MH	2	
<i>Exitianus exitiosus</i> (Uhler)	H	1		Carabidae			
3 <i>Gyponana hasta</i> DeLong	LM	5		<i>Amara confusa</i> LeConte	H	1	
† 1 <i>Hardya</i> sp.	LH	4	Cdn	<i>Amara discors</i> Kirby	L	1	
<i>Hecalus major</i> (Osborn)	LMH	11		<i>Amara ellipsis</i> (Casey)	LH	12	
<i>Helochara communis</i> Fitch	H	1		<i>Amara erratica</i> (Duftschmid)	H	8	
<i>Idiodonus aurantiacus</i> (Provancher)	H	2		<i>Amara littoralis</i> Mannerheim	LM	4	
<i>Latalus missellus</i> (Ball)	LM	10		<i>Amara obesa</i> Say	LM	30	
<i>Macrosteles fascifrons</i> (Stal)	LH	3		<i>Bembidion dyschirimum</i> LeConte	H	4	
<i>Macrosteles quadrilineatus</i> (Forbes)	LH	4		<i>Calathus advena</i> (LeConte)	H	1	
<i>Mesamia</i> sp.	L	1		† <i>Calleida viridis</i> Dejean	M	1	
<i>Neokolla hieroglyphica</i> (Say)	L	1		<i>Calosoma luxatum</i> LeConte	LM	11	
<i>Norvellina columbiana</i> (Ball)	MH	5		3 <i>Calosoma tepidum</i> LeConte	M	1	
<i>Norvellina rubida</i> (Ball)	LMH	5		3 <i>Calosoma wilkesi</i> LeConte	LMH	86	
<i>Oncopsis interior</i> Hamilton	H	1		3 <i>Carabus taedatus</i> Fabricius	LMH	60	
<i>Osbornellus borealis</i> DeLong & Mohr	LM	4		<i>Cymindis planipennis</i> LeConte	L	10	
<i>Paraphlepsius lascivius</i> (Ball)	L	3		<i>Discoderus parallelus</i> (Haldeman)	L	4	
<i>Paraphlepsius occidentalis</i> (Baker)	LMH	14		<i>Euryderus grossus</i> Say	L	2	
<i>Platymetopius</i> sp.	L	1		<i>Harpalellus basilaris</i> (Kirby)	L	2	
3 <i>Psammotettix attenuens</i> (DeL. & Dav.)	LMH	14		<i>Harpalus fraternus</i> LeConte	L	25	
<i>Rosenus</i> sp.	H	1		3 <i>Harpalus obnixus</i> Casey	M	2	

Taxon	Elevation	N	Record	Taxon	Elevation	N	Record
<i>Harpalus quadripunctatus</i> Dejean	H	1		<i>Dichelonyx backii</i> (Kirby)	MH	3	
<i>Lebia viridis</i> Say	H	1		<i>Diplotaxis brevicollis</i> LeConte	L	1	
<i>Microlestes curtipennis</i> (Casey)	LM	14		3 <i>Diplotaxis subangulata</i> LeConte	L	14	
<i>Pterostichus adstrictus</i> Eschscholtz	M	2		3 <i>Glaresis medialis</i> Gordon	LM	10	
3 <i>Pterostichus herculeanus</i> Mannerheim	H	1		<i>Ochodaeus luscinus</i> Howden	M	1	
x <i>Pterostichus melanarius</i> Illiger	LM	2		x <i>Onthophagus nuchicornis</i> (Linnaeus)	LMH	34	
3 <i>Pterostichus neobrunneus</i> Lindroth	MH	2		<i>Serica anthracina</i> LeConte	M	7	
<i>Scaphinotus marginatus</i> Fischer	H	1		<i>Serica curvata</i> LeConte	M	6	
<i>Stenolophus conjunctus</i> (Say)	LM	2		<i>Trichiotinus assimilis</i> (Kirby)	M	2	
<i>Syntomus americanus</i> (Dejean)	M	1		Byrrhidae			
Unidentified Carabidae	L	1		<i>Byrrhus kirbyi?</i> LeConte	LM	4	
Gyrinidae				<i>Cytilus alternatus?</i> Say	M	1	
<i>Gyrinus picipes</i> Aube	H	7		<i>Morychus oblongus</i> (LeConte)	L	7	
Hydrophilidae				Heteroceridae			
x <i>Cercyon pygmaeus</i> (Illiger)	LMH	3		<i>Heterocerus collaris?</i> (Keisenwetter)	H	1	
x <i>Cercyon quisquilius</i> (Linnaeus)	L	1		Buprestidae			
<i>Hydrobius fuscipes</i> (Linnaeus)	L	1		3 <i>Acmaeodera idahoensis</i> Barr	L	1	
<i>Paracymus subcupreus</i> (Say)	L	1		<i>Anthaxia inornata</i> (Randall)	LMH	12	
x <i>Sphaeridium bipustulatum</i> Fabricius	M	1		3 <i>Chrysobothris caurina</i> Horn	M	1	
x <i>Sphaeridium lunatum</i> Fabricius	MH	8		x <i>Sphenoptera</i> sp.nr. <i>jugoslavica</i> Obenb.	L	5	
x <i>Sphaeridium scarabaeoides</i> Linnaeus	MH	14		Elateridae			
Histeridae				<i>Agriotella occidentalis</i> Brown	MH	3	
<i>Hister abbreviatus</i> Fabricius	L	2		<i>Agriotes criddlei</i> Van Dyke	LM	4	
3 <i>Margarinotus umbrosus</i> (Casey)	LM	2		<i>Agriotes opaculus</i> (LeConte)	M	3	
<i>Saprinus lugens</i> Erichson	LM	4		<i>Ampepus pullus</i> Germar	H	1	
<i>Saprinus oregonensis</i> LeConte	LMH	8		+ 1 <i>Cardiophorus amplicollis</i> Motschulsky	L	2	Cdn
<i>Xerosaprinus lubricus</i> (LeConte)	LM	11		3 <i>Cardiophorus edwardsi</i> Horn	L	3	
Leioididae				<i>Cardiophorus tenebrosus</i> LeConte	M	1	
<i>Agathidium</i> sp.1	H	2		<i>Ctenicera aeripennis</i> (Kirby)	MH	2	
<i>Agathidium</i> sp.2	L	1		<i>Ctenicera bombycina</i> (Kirby)	MH	3	
<i>Catops basilaris</i> (Say)	LM	21		<i>Ctenicera cruciata festiva</i> (LeConte)	MH	5	
<i>Hydnobius</i> sp.1	L	1		<i>Ctenicera glauca</i> (Germar)	LM	9	
<i>Leiodes</i> sp.1	MH	6		3 <i>Ctenicera maura</i> (LeConte)	L	1	
<i>Leiodes</i> sp.2	H	1		<i>Ctenicera morula</i> (LeConte)	M	1	
<i>Ptomophagus</i> sp.	L	2		<i>Ctenicera pudica</i> (Brown)	MH	2	
Scydmaenidae				<i>Ctenicera semimetallica</i> (Walker)	M	3	
+ 2 <i>Euconus</i> sp.	L	2	BC	<i>Ctenicera umbripennis</i> (LeConte)	M	2	
Silphidae				<i>Dalopius fucatus</i> Brown	H	3	
<i>Heterosilpha ramosa</i> (Say)	L	1		<i>Danosoma brevicorne</i> (LeConte)	MH	4	
<i>Nicrophorus defodiens</i> Mannerheim	LMH	40		3 <i>Dolerosomus blaisdelli</i> (Van Dyke)	L	1	
<i>Nicrophorus guttula</i> Motschulsky	LM	29		+ 1 <i>Horistonotus pilosus</i> Lanchester	L	1	Cdn
<i>Nicrophorus investigator</i> Zetterstedt	M	5		+ 1 <i>Megapenthes aterrimus</i> (Motschulsky)	L	1	Cdn
<i>Thanatophilus lapponicus</i> (Herbst)	M	3		3 <i>Melanotus longulus oregonensis</i> (LeC.)	LM	8	
Agyrtidae				Cantharidae			
3 <i>Apteroloma tenuicorne</i> (LeConte)	H	1		3 <i>Malthodes piperi</i> Fender	L	1	
Staphylinidae				<i>Podabrus pruinois diversipes?</i> Fall	M	1	
<i>Anthobium reflexicolle</i> Casey	H	2		<i>Podabrus</i> sp.1	M	1	
<i>Ontholestes cingulatus</i> (Gravenhorst)	M	3		<i>Podabrus</i> sp.2	H	1	
<i>Oxyporus occipitalis</i> Fauvel	M	1		<i>Silis difficilis</i> LeConte	H	6	
Lucanidae				Dermestidae			
<i>Platycerus piceous marginalis</i> Casey	MH	10		<i>Dermestes</i> sp.	M	3	
Scarabaeidae				3 <i>Novelsis perplexa</i> Jayne	L	1	
x <i>Aphodius fimetarius</i> (Linnaeus)	MH	5		Trogositidae			
x <i>Aphodius fossor</i> (Linnaeus)	MH	15		<i>Calitys scabra</i> (Thunberg)	M	1	
x <i>Aphodius granarius</i> (Linnaeus)	H	1		Cleridae			
x <i>Aphodius haemorrhoidalis</i> (Linnaeus)	M	3		3 <i>Cymatodera decipiens?</i> Fall	LM	23	
+ 3 <i>Aphodius hirsutus</i> Brown	L	1		Melyridae			
+ 1 <i>Aphodius incommunis</i> Fall	M	1		<i>Amphivectura monticola</i> (Blaisdell)	H	1	
<i>Aphodius opacus</i> LeConte	H	10		3 <i>Anthocomus nigrinus</i> Fall	L	2	
3 <i>Aphodius subaeneus</i> LeConte	H	1		<i>Dasytiinae</i> sp.	LM	11	
<i>Bolboceras obesus</i> (LeConte)	LM	2		<i>Hypebaeus bicolor</i> (LeConte)	LH	2	
<i>Canthon simplex</i> LeConte	M	11		Sphindidae			
3 <i>Cremastocheilus armatus</i> Walker	M	1		3 <i>Odontosphindus clavicornis</i> Casey	M	1	
<i>Cremastocheilus crinitus</i> LeConte	LM	2		Nitidulidae			
3 <i>Cyclocephala longula</i> LeConte	L	1		2 <i>Carpophilus lugubris</i> Murray	L	2	BC

Taxon	Elevation	N	Record	Taxon	Elevation	N	Record
x <i>Nitidula carnaria</i> (Schaller)	LM	5		3 <i>Saxinis saucia saucia</i> LeConte	M	4	
<i>Thalycra</i> sp.1	M	1		3 <i>Syneta albida</i> LeConte	H	4	
<i>Thalycra</i> sp.2	M	1		<i>Syneta hamata</i> Horn	H	1	
Cryptophagidae				3 <i>Trirhabda pilosa</i> Blake	L	1	
<i>Atomaria</i> sp.	MH	12		Unidentified Chrysomelidae	L	1	
<i>Cryptophagus</i> sp.	M	1		Anthribidae			
Coccinellidae				† 2 <i>Trigonorhinus annulatus</i> (Carr)	L	1	
<i>Coccinella novemnotata</i> Herbst	LMH	9		Curculionidae			
x <i>Coccinella septempunctata</i> Linnaeus	H	1		<i>Acalyptus carpini</i> (Herbst)	MH	8	
<i>Coccinella trans. richardsoni</i> Brown	LH	9		<i>Anthonomus squamosus</i> LeConte	L	3	
<i>Coccinella trifasciata perplexa</i> Mulsant	MH	13		x <i>Ceutorhynchus erysimi</i> (Fab.)	MH	2	
3 <i>Hippodamia apicalis</i> ? Casey	LMH	18		<i>Ceutorhynchus neglectus</i> Blatchley	H	2	
<i>Hippodamia caseyi</i> Johnson	MH	12		x <i>Ceutorhynchus punctiger</i> Gyllenhal	LH	3	
<i>Hippodamia quinquesignata</i> (Kirby)	M	1		† 1 <i>Ceutorhynchus</i> sp.nr. <i>persimilis</i> Dietz	LM	2	Cdn
<i>Scymnus lacustris</i> ? LeConte	M	3		† 1 <i>Cylindrocopturus helianthus</i> (Hatch)	H	1	Cdn?
<i>Scymnus marginicollis</i> Mannerheim	LMH	6		<i>Gymnetron tetrum</i> (Fabricius)	L	2	
Endomychidae				<i>Lepesoma alternata</i> (Horn)	M	1	
3 <i>Aphorista laeta</i> (LeConte)	M	1		<i>Lepidophorus pumilus</i> Buchanan	M	1	
3 <i>Mycetina idahoensis</i> Fall	M	1		3 <i>Omtas saccatus</i> (LeConte)	H	1	
Lathridiidae				x <i>Otiorhynchus ovatus</i> (Linnaeus)	LM	11	
3 <i>Corticaria fenestralis</i> ? (Linnaeus)	L	1		<i>Rhyncholus brunneus</i> Mannerheim	M	1	
<i>Enicmus fictus</i> Fall	H	2		x <i>Sitona cylindricollis</i> (Fahraeus)	LH	2	
<i>Stephostethus montanus</i> ? (Fall)	H	1		<i>Tychius lineellus</i> LeConte	M	1	
Tenebrionidae				DIPTERA			
<i>Blapstinus substriatus</i> Champion	L	1		Bibionidae			
3 <i>Coniontis ovalis</i> LeConte	LM	20		<i>Bibio</i> sp.1	H	1	
† 3 <i>Eleodes hispilabris imitabilis</i> Blaisdell	L	14		<i>Bibio</i> sp.2	M	1	
3 <i>Eleodes humeralis</i> LeConte	L	10		<i>Bibio</i> sp.3	MH	4	
† 1 <i>Eleodes nigrinus difformis</i> Blaisdell	LM	6		<i>Bibiodes</i> sp.1	L	2	
<i>Eleodes novoverruculus</i> Boddy	L	18		<i>Dilophus</i> sp.	H	1	
3 <i>Eleodes rotundipennis</i> LeConte	LMH	11		Unidentified Bibionidae	H	1	
3 <i>Eleodes vandykei modificata</i> Blaisdell	M	3		Anisopodidae			
Allaculidae				<i>Sylvicola</i> sp.	L	1	
3 <i>Mycetochara procera</i> ? Casey	MH	5		Simuliidae			
Mycteridae				<i>Simulium</i> sp.	H	1	
3 <i>Mycteris concolor</i> LeConte	M	1		Tabanidae			
Melandryidae				<i>Hybomitra enigmatica</i> Teskey	H	1	
<i>Anaspis</i> sp.	LM	4		<i>Hybomitra osburni</i> (Hine)	MH	11	
3 <i>Rushia californica</i> Fall	M	1		3 <i>Hybomitra rupestris</i> (McDunnough)	L	1	
Mordellidae				† 1 <i>Stonemyia californica</i> (Bigot)	LH	5	
<i>Mordella</i> sp.	LM	12		3 <i>Tabanus stonei</i> Philip	L	2	
<i>Mordellistena</i> sp.	MH	2		Rhagionidae			
Meloidae				<i>Symphoromyia atripes</i> Bigot	L	3	
<i>Epicauta normalis</i> Werner	L	1		3 <i>Symphoromyia johnsoni</i> Coquillett	L	13	
<i>Lytta cyanipennis</i> LeConte	M	3		3 <i>Symphoromyia kincaidi</i> Aldrich	H	2	
<i>Meloe niger</i> Kirby	M	1		Xylophagidae			
2 <i>Nemognatha lutea</i> LeConte	L	8	BC?	3 <i>Xylophagus decorus</i> Williston	M	1	
Anthicidae				Stratiomyidae			
<i>Ischyropalpus nitidulus</i> (LeConte)	L	5		<i>Euparyphus (Aochletus)</i> sp.	L	2	
<i>Toxox serratus</i> (LeConte)	L	2		<i>Microchrysa</i> sp.?	L	3	
Cerambycidae				<i>Odontomyia (Catatasina)</i> sp.	H	1	
<i>Cortodera longicornis</i> (Kirby)	M	2		<i>Sargus (Sargus)</i> sp.	LM	21	
<i>Cortodera subpilosa</i> (LeConte)	LM	10		Stratiomyiidae sp.	L	1	
<i>Stenocorus nubifer</i> (LeConte)	L	1		Therevidae			
<i>Stenocorus obtusus</i> (LeConte)	H	4		1 <i>Thereva cingulata</i> Krober	H	2	Cdn?
<i>Stictoleptura canadensis</i> (Oliver)	M	1		3 <i>Thereva furcata</i> Loew	M	2	
<i>Xylotrechus longitarsus</i> Casey	H	1		3 <i>Thereva nigripilosa</i> Cole	H	1	
Chrysomelidae				<i>Thereva</i> sp.nr. <i>comata</i> Loew	MH	4	
<i>Altica</i> sp.	H	7		Scenopinidae			
<i>Chaetocnema</i> sp.	H	2		<i>Scenopinus</i> sp.grp. <i>velutinus</i> (Krober)	L	1	
<i>Chrysolina</i> sp.	L	1		Asilidae			
<i>Chrysmela aeneicollis</i> (Schaeffer)	H	1		<i>Cyrtopogon bimacula</i> (Walker)	H	4	
<i>Glyptina atriventris</i> Horn	L	6		3 <i>Cyrtopogon inversus</i> Curran	M	1	
<i>Longitarsis</i> sp.	MH	12		<i>Cyrtopogon montanus</i> Loew	M	12	
<i>Phyllotreta</i> sp.	LH	7		<i>Cyrtopogon willistoni</i> Curran	M	6	
<i>Psylloides</i> sp.	H	1		† 1 <i>Dicolonus nigricentrum</i> Adis. & Wood	M	4	

Taxon	Elevation	N	Record	Taxon	Elevation	N	Record
† 1 <i>Dioctria henschawi</i> Johnson	LM	9		Phoridae			
† <i>Efferia albibarbis</i> (Macquart)	L	6		<i>Aenigmatias</i> sp.	H	1	
3 <i>Efferia benedicti</i> (Bromley)	L	33		<i>Anevriana</i> sp.	MH	2	
3 <i>Efferia harveyi</i> (Hine)	L	3		<i>Borophaga</i> sp.	H	1	
<i>Eucyrtopogon calcarata</i> Curran	MH	8		<i>Conicera</i> sp.	M	2	
3 <i>Holopogon stellatus</i> Martin	L	2		2 <i>Megaselia barberi</i> Brown	LH	2	BC?
<i>Laphria felis</i> Osten Sacken	M	2		2 <i>Megaselia eccoptomera</i> Schmitz	M	1	BC?
3 <i>Laphria partitor</i> (Banks)	M	1		<i>Megaselia rufipes</i> (Meigen)	H	1	
<i>Lasiopegon monticola</i> Melander	MH	23		<i>Megaselia</i> sp. (unidentified)	LMH	45	
<i>Machimus callidus</i> (Williston)	LMH	8		<i>Phora</i> sp. (unidentified)	MH	12	
3 <i>Machimus occidentalis</i> (Hine)	LM	6		Phoridae sp.	M	2	
<i>Machimus</i> sp.1	LM	3		<i>Triphleba</i> sp.	MH	3	
<i>Machimus</i> sp.2	L	1		Syrphidae			
<i>Machimus</i> sp.3	LM	4		<i>Arctophila flagrans</i> Osten Sacken	H	1	
<i>Machimus</i> sp.nr. <i>paropus</i> Walker	L	1		3 <i>Brachypalpus femorata</i> Williston	M	1	
<i>Proctacanthus milbertii</i> Macquart	L	6		<i>Cheilosia</i> sp.	H	1	
3 <i>Regasilix auriannulatus</i> (Hine)	M	2		<i>Chrysotoxum fasciatum</i> (Muller)	LMH	14	
<i>Stenopogon inquinatus</i> Loew	LM	6		<i>Chrysotoxum</i> sp.	H	1	
† 3 <i>Willistonina bilineata</i> (Williston)	M	3		<i>Dasyrphus pauxillus</i> (Williston)	L	1	
Nemestrinidae				<i>Epistrophe nitidicollis</i> (Meigen)	M	1	
† <i>Neorhynchocephalus</i> sp.	L	2		<i>Eristalis hirta</i> Loew	MH	2	
† Unidentified Nemestrinidae	L	1		<i>Eristalis tenax</i> (L.)	M	1	
Bombyliidae				<i>Eupeodes lapponicus</i> (Zetterstedt)	H	1	
<i>Anastoechus barbatus</i> Osten Sacken	L	18		<i>Eupeodes latifasciatus</i> (Macquart)	M	1	
<i>Anthrax irrorata</i> Say	L	3		<i>Eupeodes snowi</i> (Wehr)	LH	2	
<i>Anthrax plesia</i> Curran	L	1		<i>Eupeodes</i> sp.	MH	2	
<i>Bombylius lancifer</i> Osten Sacken	H	4		<i>Eupeodes volucris</i> Osten Sacken	LM	7	
<i>Geron</i> sp.	L	4		<i>Ferdinandea croesus?</i> Osten Sacken	L	1	
<i>Geron?</i> sp.	L	1		<i>Helophilus hybridus</i> Loew	MH	5	
<i>Hemipenthes</i> spp.	LMH	32		<i>Heringia</i> sp.	L	1	
<i>Lepidanthrax</i> sp.	L	1		<i>Ocyptamus diversifasciatus</i> (Knab)	LH	2	
<i>Metacosmus</i> sp.	L	1		<i>Orthonevra pulchella</i> Williston	M	1	
<i>Poecilanthrax</i> spp.	L	2		<i>Orthonevra</i> sp.	LH	2	
3 <i>Systoechus oreas</i> Osten Sacken	M	2		<i>Paragus haemorrhous</i> Meigen	LMH	12	
<i>Systoechus</i> sp.	H	1		<i>Paragus</i> sp.	LMH	6	
<i>Thevenemyia</i> sp.	M	1		<i>Paragus variabilis</i> Vockeroth	M	1	
<i>Villa</i> spp.	LMH	15		<i>Parasyrphus insolitus</i> Osburn	M	1	
Empididae				<i>Pipiza</i> sp.	MH	2	
<i>Dolichocephala</i> sp.	H	1		<i>Platycheirus albimanus</i> (Fab.)	H	1	
<i>Drapetis</i> sp.	MH	2		<i>Platycheirus rufimaculatus</i> Vockeroth	MH	2	
<i>Euihybus</i> sp.	L	2		<i>Platycheirus</i> sp.	MH	6	
<i>Heleodromia</i> sp.	M	3		<i>Scaeva pyrastris</i> (L.)	LH	4	
<i>Hilara</i> sp.1	LMH	8		<i>Sphaerophoria philanthus</i> (Meigen)	M	1	
<i>Hilara</i> sp.2	LMH	4		<i>Sphaerophoria</i> sp.	M	2	
<i>Iteaphila</i> sp.	H	1		<i>Sphegina</i> sp.	M	1	
<i>Microphor</i> sp.	LMH	9		<i>Syrphus opinator</i> Osten Sacken	MH	4	
<i>Platypalpus</i> sp.1	H	1		<i>Syrphus torvus</i> Osten Sacken	H	1	
<i>Platypalpus</i> sp.2	H	1		<i>Trichopsomyia</i> sp.	L	1	
<i>Platypalpus</i> sp.3	LH	3		<i>Volucella bombylans</i> (L.)	MH	4	
<i>Rhamphomyia</i> sp.1	H	2		<i>Xylota flavitibia</i> Bigot	M	1	
<i>Rhamphomyia</i> sp.2	M	1		<i>Xylota subfasciata</i> Loew	M	1	
<i>Rhamphomyia</i> sp.3	M	2		Pipunculidae			
<i>Rhamphomyia</i> sp.4	H	1		<i>Cephalops varius</i> (Cresson)	M	1	
<i>Rhamphomyia</i> sp.5	M	1		1 <i>Eudorylas loewii</i> (Kertész)	L	1	BC?
<i>Tachypeza</i> sp.1	M	1		<i>Eudorylas subopacus industrius</i> (Knab)	LM	4	
<i>Tachypeza</i> sp.2	H	1		3 <i>Tomosvaryella coquilletti</i> (Kertész)	LM	3	
Dolichopodidae				<i>Tomosvaryella</i> sp.	L	3	
<i>Condylostylus</i> sp.	L	1		1 <i>Tomosvaryella tumida</i> Hardy	LM	2	Cdn?
<i>Dolichopus</i> spp.	LMH	12		Conopidae			
<i>Hercostomus</i> spp.	LMH	6		<i>Myopa</i> sp.	LMH	9	
<i>Medetera</i> sp.	LMH	13		<i>Physocephala texana</i> Williston	M	1	
<i>Neurigona</i> spp.	M	2		<i>Zodion</i> sp.	LM	3	
Lonchopteridae				Otitidae			
<i>Lonchoptera</i> sp.1	H	1		<i>Physiphora</i> sp.	L	1	
Platypezidae				Tephritidae			
<i>Pleisioclythia</i> sp.	L	1		<i>Eutreta diana</i> (Osten Sacken)	LH	5	

Taxon	Elevation	N	Record	Taxon	Elevation	N	Record
<i>Paraxyza</i> sp.	LH	3		Scathophagidae			
x <i>Urophora affinis</i> Frauenfeld	LH	3		<i>Scathophaga furcata</i> (Say)	H	11	
<i>Urophora</i> sp.	L	1		<i>Scathophaga stercoraria</i> (L.)	LMH	19	
Agromyzidae				Anthomyiidae			
<i>Phytoliriomyza</i> sp.	L	1		<i>Adia</i> (=Paregle) <i>cinerella</i> (Fallen)	L	1	
Unidentified Agromyzidae	H	3		<i>Botanophila acuticauda</i> (Huckett)	H	8	
Milichiidae				<i>Botanophila</i> sp.	M	1	
<i>Paromyia nitens</i> (Loew)	L	2		<i>Delia concorda</i> (Huckett)	LM	2	
Carnidae				<i>Delia deviata</i> (Huckett)	L	1	
<i>Meoneura</i> sp.	LMH	5		<i>Delia garretti</i> (Huckett)	LM	2	
Dryomyzidae				3 <i>Delia monticola</i> (Huckett)	M	1	
<i>Dryomyza setosa</i> (Bigot)	M	1		<i>Delia neomexicana</i> (Malloch)	MH	2	
Sepsidae				+ 1 <i>Delia nivialis</i> Griffiths	H	1	
<i>Salpella sphondylii</i> (Schrank)	L	3		<i>Delia</i> sp.	M	1	
<i>Sepsis</i> sp.	M	1		<i>Delia unispina</i> Yudin	M	1	
Lauxaniidae				<i>Eutrichota flavicans</i> (Stein)	MH	4	
<i>Lauxania nigrimana</i> Coquillett	M	1		<i>Eutrichota major</i> (Malloch)	H	2	
<i>Minettia lupulina</i> (Fab.)	M	1		<i>Eutrichota nigrifemur</i> (Stein)	M	3	
Heleomyzidae				<i>Hylemya alcatheae</i> (Walker)	M	1	
<i>Aecothea</i> sp.	H	3		<i>Hylemyza partita</i> (Meigen)	M	1	
<i>Amoebalaria</i> sp.	H	1		<i>Lasiomma collini</i> (Ringdahl)	M	1	
<i>Eccomoptera simplex</i> (Coquillett)	H	3		2 <i>Pegomya setibasis</i> Huckett	LM	2	BC
3 <i>Pseudoleria crassata</i> Garrett	L	1		Unidentified Anthomyiidae	H	1	
<i>Pseudoleria intermedia</i> Garrett	MH	6		Muscidae			
<i>Pseudoleria robusta</i> Garrett	LM	5		<i>Helina laxifrons</i> (Zetterstedt)	M	1	
1 <i>Pseudoleria similis</i> Garrett	L	1	Cdn?	<i>Hypodermodes solitaria</i> Knab	M	3	
<i>Pseudoleria</i> sp.	LM	2		<i>Limnospila albifrons</i> (Zetterstedt)	L	1	
2 <i>Suillia barberi</i> Darlington	M	8	BC?	<i>Limosia pilosissima</i> Stein	MH	2	
Trioxscelididae				<i>Limosia</i> sp.	M	1	
<i>Trioxscelus fumipennis</i> Melander	L	3		<i>Myospila mediatubunda</i> (Fab.)	L	1	
Sphaeroceridae				<i>Pararicia</i> sp.	M	1	
3 <i>Apilolus luctuosus</i> (Spuler)	MH	17		<i>Phaonia protuberans</i> Malloch	H	1	
<i>Aptilotus nigriscapus</i> Marshall	MH	4		<i>Phaonia rugia</i> (Walker)	H	1	
<i>Copromyza</i> sp.	H	3		<i>Phaonia</i> sp.	M	2	
x <i>Copromyza stercoraria</i> (Meigen)	H	11		<i>Pseudophaonia orichalceoides</i> Huckett	LM	2	
<i>Ishiolepta scabra</i> (Spuler)	M	2		Calliphoridae			
<i>Lotophila atra</i> (Meigen)	LMH	39		<i>Calliphora vomitaria</i> (L.)	M	3	
<i>Minilimosina nasuta</i> (Spuler)	LMH	38		<i>Eucalliphora latifrons</i> (Hough)	H	1	
<i>Minilimosina parva</i> (Malloch)	LM	4		Sarcophagidae			
<i>Minilimosina vitripennis</i> (Zetterstedt)	MH	7		<i>Agria housei</i> Shewell	LM	6	
<i>Nearcticorpus canadense</i> Roh. & Mars.	LM	2		<i>Blaesoxipha atlantis</i> (Aldrich)	L	1	
<i>Pseudocoelinella</i> sp.	H	1		+ 1 <i>Eumacronychia rohweri</i> Allen	M	1	Cdn?
x <i>Pullimosina heteroneura</i> (Haliday)	M	1		<i>Helicobia rapax</i> (Walker)	LM	6	
<i>Pullimosina longicosta</i> (Spuler)	H	1		+ <i>Hilarella hilarella</i> (Zetterstedt)	M	1	
<i>Pullimosina pullula</i> (Zetterstedt)	H	1		3 <i>Opsophyta opifera</i> (Coquillett)	L	1	
<i>Pullimosina</i> sp.	H	1		<i>Protodexia hunteri</i> (Hough)	L	4	
<i>Pullimosina woodi?</i> Marshall	H	1		<i>Ravinia planifrons</i> (Aldrich)	LM	6	
<i>Rachispoda</i> sp.	LH	7		<i>Ravinia querula</i> (Walker)	LM	5	
<i>Rudolfina digitata</i> Marshall	H	1		<i>Sphixapata trilineata</i> (Wulp)	M	1	
<i>Sclerocoelus sordipes</i> (Adams)	L	1		<i>Stenaulacotheca</i> sp.	L	1	
3 <i>Spelobia abundans</i> (Spuler)	H	4		<i>Taxigramma heteroneura</i> (Meigen)	LM	9	
x <i>Spelobia clunipes</i> Meigen	LMH	39		Tachinidae			
<i>Spelobia depilicercus</i> Marshall	M	37		<i>Acemya tibialis</i> Coquillett	LM	8	
3 <i>Spelobia lucifuga</i> (Spuler)	LM	5		+ 1 <i>Admontia badiceps</i> Reinhard	L	1	Cdn?
<i>Spelobia luteilabris</i> (Rondani)	LMH	9		<i>Allophorocera</i> sp.	L	2	
<i>Spelobia maculipennis</i> (Spuler)	H	1		<i>Aphria ocypterata</i> Townsend	LM	5	
x <i>Spelobia ochripes</i> (Meigen)	H	3		<i>Arctophyta</i> sp.1	H	2	
<i>Spelobia ordinaria</i> (Spuler)	LM	21		<i>Arctophyta</i> sp.2	L	1	
<i>Spelobia rimata</i> Marshall	M	27		<i>Campylocheta</i> sp.	M	1	
<i>Telomerina flavipes</i> (Meigen)	LM	5		<i>Ceromasia auricaudata</i> Townsend	LM	5	
Unidentified Sphaeroceridae	LMH	93		<i>Chaetogena</i> sp.	M	1	
Ephydridae				<i>Clausicella</i> sp.	LM	7	
<i>Ephydra</i> sp.	L	1		<i>Cylindromyia</i> sp.1	LM	2	
Chloropidae				<i>Cylindromyia</i> sp.2	L	3	
<i>Febrigella</i> sp.	L	1		<i>Dinera griseascens</i> (Fallen)	LM	17	
Unidentified Chloropidae	H	2		<i>Eribella</i> sp.	H	1	

Taxon	Elevation	N	Record	Taxon	Elevation	N	Record
<i>Exorista</i> sp.	L	1		<i>Cercyonis sthenele</i> (Boisduval)	L	1	
<i>Graphogaster</i> spp.	LMH	8		<i>Coenonympha tullia</i> (Linnaeus)	H	8	
<i>Gymnosoma occidentale</i> Curran	L	1		<i>Erebia epipsodea</i> Butler	MH	5	
<i>Leucostoma</i> sp.	M	1		<i>Oeneis chryxus</i> Doubleday & Hewitson	L	1	
<i>Madremyia saundersii</i> (Williston)	M	1		Nymphalidae			
<i>Melanophrys flavipennis</i> Williston	M	2		<i>Aglais milberti</i> (Godart)	MH	2	
<i>Mochlosoma illocale</i> Reinhard	LH	2		<i>Basilarchia lorquini</i> (Boisduval)	LM	4	
† 1 <i>Nimiloglossa</i> sp.	L	1	Cdn	<i>Nymphalis antiopa</i> (Linnaeus)	L	1	
<i>Oswaldia</i> sp.	M	1		<i>Nymphalis vau-album</i> (Dennis & Sch.)	M	3	
<i>Paradidyma</i> sp.	L	1		<i>Occidryas anicia</i> (Doubleday & Hewit.)	L	9	
2 <i>Peleteria cornuta</i> Curran	H	2	BC?	<i>Phycoides mylitta</i> (Godart)	H	1	
<i>Peleteria</i> sp.1	H	1		<i>Phycoides pallida</i> (W.H. Edwards)	L	3	
<i>Peleteria</i> sp.2	LM	5		<i>Phycoides pratensis</i> (Behr)	MH	5	
<i>Peleteria</i> sp.3	MH	9		<i>Phycoides tharos</i> (Drury)	LM	2	
<i>Phytomyzeta</i> sp.	L	1		<i>Polygonia faunus</i> (Edwards)	M	3	
<i>Platymya</i> sp.	M	1		<i>Polygonia satyrus</i> (Edwards)	M	1	
<i>Pseudochaeta</i> sp.	L	1		<i>Polygonia zephyrus</i> (W.H. Edwards)	MH	3	
<i>Ptilodexia</i> spp.	MH	6		<i>Speyeria callippe</i> (Boisduval)	H	5	
<i>Siphona (Ceranthis)</i> sp.	LM	2		<i>Speyeria zerene</i> (Boisduval)	LMH	12	
<i>Siphona (Siphona)</i> sp.	L	1		<i>Vanessa cardui</i> (Linnaeus)	L	4	
2 <i>Spallanzamia hesperidarum</i> (Williston)	LM	2	BC?	Thyrididae			
2 <i>Tachina robertsoni</i> (Townsend)	MH	11	BC?	<i>Thyris sepulchralis</i> Guerin	L	3	
<i>Tachina rostrata</i> (Tothill)	LMH	6		Geometridae			
<i>Tachina</i> sp.1	H	3		<i>Dysstroma formosa formosa</i> (Hulst)	M	1	
<i>Tachina</i> sp.2	H	1		<i>Lobocleta quaesitata</i> (Hulst)	M	1	
<i>Tachinomyia</i> sp.	M	1		3 <i>Semiothisa delectata</i> Hulst	L	3	
<i>Winthemia fumiferanae</i> Tothill	LMH	19		<i>Semiothisa neptaria</i> (Guenee)	M	1	
Unidentified Tachinidae	L	8		Lasiocampidae			
LEPIDOPTERA				<i>Phylodesma americana</i> (Harris)	M	3	
Tortricidae				Saturniidae			
<i>Archips corasivorana</i> (Fitch)	L	1		<i>Antheraea polyphemus</i> (Cramer)	L	1	
<i>Dichrorampha simulana</i> (Clem.)	M	1		† <i>Hemileuca hera?</i> (Harrison)	L	1	
Eucosmini? sp.	L	2		Sphingidae			
Hesperiidae				<i>Hemaris diffinis</i> (Boisduval)	MH	6	
<i>Hesperia comma</i> (Linnaeus)	L	8		Arctiidae			
<i>Ochlodes sylvanoides</i> (Boisduval)	LMH	23		<i>Spilosoma vagans</i> (Boisduval)	M	1	
<i>Pholisora catullus</i> (Fabricius)	L	1		Unidentified Arctiidae	L	1	
Papilionidae				Noctuidae			
<i>Papilio eurymedon</i> Lucas	L	2		<i>Bleptina caradrinalis</i> (Guenee)	L	1	
<i>Papilio oregonius</i> Edwards	LM	2		<i>Caenurgina erechtreea</i> (Cramer)	L	7	
<i>Papilio rutulus</i> Linnaeus	M	1		<i>Crymodes devastator</i> (Brace)	L	1	
<i>Papilio zelicaon</i> Lucas	H	3		<i>Euxoa ochrogaster</i> (Guenee)	L	1	
<i>Parnassius phoebus</i> (Fabricius)	M	4		<i>Heliothis</i> sp.	L	1	
Pieridae				<i>Leucania multilinea</i> Walker	L	1	
<i>Anthocharis sara</i> Lucas	MH	6		<i>Marathyssa inficta</i> (Walker)	L	1	
<i>Colias philodice</i> Godart	L	11		<i>Mniotype miniota</i> (J.B. Smith)	M	1	
<i>Euchloe ausonides</i> (Lucas)	M	4		<i>Schnia</i> sp.	H	1	
x <i>Pieris rapae</i> Linnaeus	LH	3		<i>Synedoida nichollae</i> (Hampson)	M	1	
<i>Pontia beckeri</i> (Edwards)	M	1		Unidentified Noctuidae	L	1	
<i>Pontia occidentalis</i> (Reakirt)	MH	3		TRICHOPTERA			
Lycaenidae				Hydropsychidae			
<i>Agriades franklinii</i> (Curtis)	H	1		<i>Hydropsyche occidentalis</i> Banks	M	1	
<i>Callophrys shermanii</i> (W.H. Edwards)	H	1		<i>Hydropsyche</i> sp.	L	2	
<i>Chalceria heteronea</i> (Boisduval)	M	1		Limnephilidae			
<i>Epidemia helliodes</i> (Boisduval)	L	1		<i>Hesperophylax</i> sp.	M	1	
† 2 <i>Epidemia nivalis</i> (Boisduval)	M	2		Leptoceridae			
† <i>Euphilotes batoides</i> (Behr)	H	2		<i>Ceraclaea alagmus?</i> (Banks)	M	2	
<i>Everes amyntula</i> (Boisduval)	M	2		HYMENOPTERA			
<i>Glaucoopsyche lygdamus</i> (Doubleday)	LH	3		Xyelidae			
<i>Icaricia acmon</i> (Westwood & Hewit.)	H	2		<i>Pleuroneura californica</i> Ashmead	H	1	
<i>Icaricia icariodes</i> (Boisduval)	LMH	8		<i>Xyela obscura?</i> (Strobl.)	H	22	
† <i>Lycaeides melissa</i> (W.H. Edwards)	LM	25		Cimbicidae			
† <i>Mitoura siva</i> (W.H. Edwards)	L	1		<i>Trichiosoma triangulum</i> Kirby	LH	3	
Satyridae				Tenthredinidae			
<i>Cercyonis oetus</i> (Boisduval)	LMH	4		<i>Ametastegia coloradensis</i> (Weldon)	H	6	
<i>Cercyonis pegala</i> (Fabricius)	L	13		1 <i>Caliroa hyalina</i> Smith	L	1	Cdn?

Taxon	Elevation	N	Record	Taxon	Elevation	N	Record
x 2 <i>Fenella nigrita</i> Westwood	L	1	BC	Sapygidae			
<i>Nematus (Pteronidea)</i> sp.	L	1	†	1 <i>Sapyga</i> sp.	L	1	Cdn?
<i>Pachynematus</i> sp.	H	2		Formicidae			
<i>Pristophora</i> sp.	H	1		<i>Aphenogaster occidentalis</i> Emery	LM	18	
x 2 <i>Profenusia thompsoni</i> (Konow)	H	1	BC	<i>Camponotus laevigatus</i> (F.Smith)	M	2	
† 2 <i>Tenthredo alienata</i> Rohwer	H	1	BC	<i>Camponotus nearcticus</i> Emery	L	1	
<i>Tenthredo</i> sp.nr. <i>pectoralis</i> Norton	M	3		<i>Camponotus pennsylvanicus</i> (DeGeer)	MH	9	
1 <i>Tenthredo obscuripennis</i> Cresson	M	1	Cdn?	<i>Camponotus vicinus</i> Mayr	LM	23	
Orussidae				<i>Formica argentea</i> Wheeler	LMH	16	
3 <i>Orussus occidentalis</i> (Cresson)	M	1		1 <i>Formica haemorrhoidalis</i> Emery	LMH	5	Cdn?
Braconidae				1 <i>Formica integroides</i> Emery	LM	4	Cdn?
<i>Peristenus</i> sp.	MH	3		<i>Formica lasiodes</i> Emery	MH	15	
Aulacidae				1 <i>Formica microgyna</i> Wheeler	H	1	Cdn?
<i>Pristaulacus</i> sp.?	M	1		<i>Formica neogagates</i> Emery	L	8	
Bethylidae				<i>Formica neorufibarbis</i> Emery	M	2	
<i>Anisepyrus subviolaceus</i> Keiffer	LM	5		<i>Formica podzolica</i> Francoeur	MH	4	
<i>Epyris rufipes</i> (Say)	LM	2		<i>Formica</i> sp.grp. <i>fusca</i>	L	3	
† 2 <i>Parasierola breviceps</i> (Krombein)	M	1	BC	<i>Formica</i> sp.grp. <i>microgyna</i>	L	1	
1 <i>Parasierola gracilicornis</i> Kieffer	L	1	Cdn?	<i>Formica subaenescens</i> Emery	H	1	
3 <i>Pseudisobrachium persimile</i> Evans	M	1		<i>Formica subnuda</i> Emery	H	1	
<i>Pseudisobrachium</i> sp.	M	1		3 <i>Formica subpolita</i> Mayr	LM	3	
Dryinidae				<i>Formica vincularis</i> Wheeler	L	3	
2 <i>Aphelopus albopictus</i> Ashmead	LM	13	Cdn?	<i>Lasius crypticus</i> Wilson	LM	3	
1 <i>Aphelopus varicornis</i> Brues	LM	4	Cdn?	1 <i>Lasius fallax</i> Wilson	M	2	Cdn?
Dryinidae sp.	LMH	14		<i>Lasius neoniger</i> Emery	L	2	
1 <i>Lonchodryinus bakeri</i> (Kieffer)	M	2	Cdn?	<i>Lasius pallitarsis</i> (Provancher)	M	3	
Chrysididae				<i>Leptothorax canadensis</i> Provancher	M	1	
<i>Chrysis coeruleans</i> Fabricius	L	1		3 <i>Leptothorax nevadensis</i> Wheeler	LMH	16	
1 <i>Chrysis coloradica</i> Bohart	LM	4	Cdn?	3 <i>Leptothorax nitens</i> Emery	L	1	
<i>Chrysis dorsalis</i> Aaron	M	2		<i>Leptothorax rugatulus</i> Emery	LM	3	
† 2 <i>Chrysis montana</i> Aaron	M	1	BC? †	1 <i>Myrmecocystus testaceus</i> Emery	L	3	Cdn
† 1 <i>Chrysis rivalis</i> Bohart	M	1	Cdn?	<i>Myrmica</i> sp.1	H	4	
3 <i>Chrysura cobaltina</i> (Aaron)	M	1		<i>Myrmica</i> sp.2	H	1	
3 <i>Chrysura kyrae</i> Krombein	LM	4		3 <i>Myrmica tahoensis</i> Wheeler	M	1	
<i>Chrysura pacifica</i> (Say)	M	2		<i>Pheidole</i> sp.	L	3	
† 2 <i>Cleptes speciosus</i> Aaron	M	2	BC	<i>Pogonomyrmex owyheeii</i> Cole	L	1	
<i>Elampus marginatus</i> (Patton)	M	3		<i>Polyergus breviceps</i> Emery	M	1	
<i>Hedychridium crassum</i> Bohart	M	1		<i>Solenopsis molesta</i> (Say)	L	8	
<i>Hedychridium dimidiatum</i> (Say)	LM	7		<i>Tapinoma sessile</i> (Say)	LMH	23	
<i>Hedychridium menkei</i> Bohart	L	1		Unidentified Formicidae	M	1	
<i>Hedychridium politum</i> Bohart	M	2		Vespidae			
<i>Hedychrum nigropilosum</i> Mocsary	LM	4		<i>Dolichovespula arenaria</i> (Fabricius)	L	1	
<i>Holopyga ventralis</i> Say	LM	3		<i>Dolichovespula maculata</i> (Linnaeus)	LM	6	
<i>Omalus plicatus</i> (Aaron)	M	4		<i>Polistes</i> sp.	LM	19	
<i>Omalus variatus</i> (Aaron)	L	1		<i>Vespula acadica</i> (Sladen)	LH	2	
Unidentified Chrysididae	M	1		<i>Vespula atropilosa?</i> (Sladen)	L	2	
Tiphiidae				<i>Vespula consobrina</i> (Saussure)	L	1	
3 <i>Brachycystis atrata</i> (Blake)	LM	2		<i>Vespula pennsylvanica</i> (Saussure)	LM	14	
† 1 <i>Paratiphia ephippiata</i> Allen	LH	10	Cdn?	<i>Vespula vulgaris</i> (Linnaeus)	M	1	
3 <i>Tiphia anguis</i> Allen	L	13		Unidentified Vespidae	LMH	44	
3 <i>Tiphia fortistriolata</i> Cameron	LM	3		Sphécidae			
<i>Tiphia infossata</i> Allen	LMH	9		<i>Ammophila azteca</i> Cameron	L	2	
3 <i>Tiphia nevadana</i> Cameron	LM	13		† 1 <i>Ammophila extremitata</i> Cresson	LM	3	Cdn?
Sierolomorphidae				<i>Ammophila kennedyi</i> (Murray)	LM	10	
† 2 <i>Sierolomorpha nigrescens</i> Evans	L	1	BC	<i>Ammophila mediata</i> Cresson	M	3	
Mutillidae				<i>Ammophila procera</i> Dahlbom	L	3	
<i>Dasymutilla bioculata</i> (Cresson)	L	1		<i>Ammophila strenua</i> Cresson	L	2	
1 <i>Dasymutilla chiron</i> (Blake)	L	3	Cdn?	3 <i>Chalybion californicum</i> (Saussure)	L	1	
1 <i>Dasymutilla monticola</i> (Cresson)	L	2		<i>Palmodes carbo</i> Bohart & Menke	L	1	
<i>Dasymutilla vesta</i> (Cresson)	L	12	BC?	<i>Podalonia communis</i> (Cresson)	LMH	14	
† <i>Ephuta grisea fuscosericea</i> Schuster	LM	9		3 <i>Podalonia mickeli</i> Murray	L	1	
† 1 <i>Myrmosa bradleyi</i> Roberts	LM	2	Cdn? †	† 2 <i>Podalonia sonorensis</i> (Cameron)	LM	2	BC?
† 1 <i>Odontophotopsis erebus</i> (Melander)	L	1	Cdn?	<i>Prionyx atratus</i> (Lepeletier)	L	4	
† 1 <i>Pseudomethoca athamas</i> (Fox)	M	1	Cdn?	<i>Prionyx canadensis</i> (Provancher)	L	1	
† 1 <i>Pseudomethoca bequaerti</i> Mickel	L	1	Cdn?	<i>Sceliphron caementarium</i> (Drury)	L	1	
† 2 <i>Pseudomethoca propinqua</i> (Cresson)	L	4	BC	3 <i>Sphex lucae</i> (Saussure)	L	1	

Taxon	Elevation	N	Record	Taxon	Elevation	N	Record
Unidentified Sphecidae	LM	4		<i>Andrena</i> sp.6	L	1	
Pemphredonidae				<i>Andrena</i> sp.7	M	1	
† 1 <i>Ammoplanellus apache</i> (Pate)	LM	8	Cdn	<i>Perdita</i> sp.1	M	2	
† 1 <i>Ammoplanellus lenape</i> (Pate)	LM	6	Cdn	<i>Perdita</i> sp.2	L	1	
<i>Diodontus boharti</i> Eighme	LH	2		<i>Perdita</i> sp.3	L	1	
† 1 <i>Diodontus leguminiferus</i> Cockerell	LM	7	Cdn?	Halictidae			
2 <i>Diodontus rugosus</i> Fox	M	16	BC?	<i>Agapostemon</i> sp.	LM	10	
1 <i>Diodontus striatus</i> (Mickel)	LMH	4	Cdn?	<i>Dialictus</i> sp.	LM	2	
1 <i>Mimesa gregaria</i> (Fox)	LM	5	Cdn?	<i>Halictus rubicundus?</i> (Christ)	L	3	
3 <i>Pemphredon grinelli</i> (Rohwer)	M	1		<i>Halictus</i> sp.1	L	2	
<i>Pemphredon inornata</i> Say	H	1		<i>Halictus</i> sp.2	M	1	
3 <i>Pulverro columbianus</i> (Kohl)	LM	12		<i>Halictus</i> sp.3	L	3	
Astatidae				<i>Sphecodes</i> sp.1	M	1	
<i>Astata occidentalis</i> Cresson	L	1		<i>Sphecodes</i> sp.2	L	1	
<i>Diploplectron peglowi</i> Krombein	LM	3		<i>Sphecodes</i> sp.3	L	1	
Larridae				<i>Sphecodes</i> sp.4	LH	7	
<i>Ancistromma distincta</i> (Smith)	L	6		Unidentified Halictidae	L	5	
<i>Miscophus</i> sp.	L	4		Megachilidae			
<i>Solierella</i> sp.	LM	3		<i>Anthidiini</i> sp.1	L	1	
<i>Tachysphex aequalis</i> Fox	L	1		<i>Anthidiini</i> sp.2	M	1	
<i>Tachysphex pompiliformis</i> (Panzer)	LM	8		<i>Anthidiini</i> sp.3	M	1	
<i>Tachysphex tarsatus</i> (Say)	LM	8		<i>Anthidiini</i> sp.4	M	1	
3 <i>Tachytes pennsylvanicus</i> Banks	L	1		<i>Anthidiini</i> spp. (misc.)	M	2	
<i>Trypoxylon aldrichi</i> Sandhouse	H	1		<i>Coelioxys</i> sp.?	LM	5	
Crabronidae				<i>Hoplites albifrons</i> (Kirby)	M	1	
<i>Belomicrus forbesii</i> (Robertson)	H	4		3 <i>Hoplites hypocrita?</i> (Cockerell)	L	4	
<i>Belomicrus</i> sp.	H	1		3 <i>Hoplites louisae</i> (Cockerell)	H	1	
<i>Crabro latipes</i> Smith	M	1		<i>Megachile</i> sp.1	L	1	
<i>Crabro</i> sp.	L	1		<i>Megachile</i> sp.2	L	2	
<i>Crossocerus</i> sp.	M	1		<i>Megachile</i> sp.3	LM	5	
<i>Crossocerus?</i> sp.	M	1		<i>Megachile</i> sp.4	L	2	
2 <i>Ectemnius dilectus</i> (Cresson)	LH	2	BC?	<i>Megachile</i> spp. (misc.)	LMH	9	
<i>Ectemnius?</i> sp.	L	1		<i>Osmia</i> sp. 1	LM	5	
<i>Lestica</i> sp.	LM	2		<i>Osmia</i> sp. 2	LM	10	
<i>Lindenius</i> sp.	L	1		<i>Osmia</i> sp. 3	L	5	
<i>Rhopalum clavipes</i> (Linnaeus)	M	1		<i>Osmia</i> sp. 4	L	3	
<i>Rhopalum</i> sp.	M	1		<i>Osmia</i> sp. 5	L	1	
Nyssonidae				<i>Osmia</i> sp. 6	L	1	
<i>Bembix americana comata</i> Parker	L	5		<i>Osmia</i> sp. 7	M	1	
† 1 <i>Didineis nodosa</i> Fox	L	1	Cdn?	<i>Osmia</i> sp. 8	M	2	
<i>Epinysson</i> sp.	L	2		<i>Osmia</i> sp. 9	L	1	
<i>Gorytes</i> sp.	LM	3		<i>Osmia</i> sp.10	L	1	
<i>Harpactus</i> sp.a	M	8		<i>Osmia</i> sp.11	L	2	
<i>Harpactus</i> sp.b	LM	18		<i>Osmia</i> sp.12	M	1	
<i>Nysson</i> sp.	LM	5		<i>Osmia</i> sp.13	M	1	
<i>Nysson</i> sp.a	M	16		<i>Osmia</i> sp.14	L	1	
<i>Nysson</i> sp.b	M	1		<i>Osmia</i> sp.15	L	1	
<i>Nysson</i> sp.c	M	4		<i>Osmia</i> sp.16	H	1	
<i>Nysson</i> sp.d	M	2		<i>Osmia</i> sp.17	L	1	
3 <i>Steniolia obliqua</i> (Cresson)	MH	2		<i>Osmia</i> sp.18	L	1	
Philanthidae				<i>Osmia</i> sp.19	L	1	
3 <i>Aphilanthops subfrigidus</i> Dunning	M	3		<i>Osmia</i> sp.20	L	2	
3 <i>Cerceris convergens</i> Viereck & Cock.	L	1		<i>Osmia</i> sp.21	L	1	
<i>Cerceris crucis</i> Viereck & Cockerell	L	1		<i>Osmia</i> sp.22	L	2	
<i>Eucerceris flavocincta</i> Cresson	LM	6		<i>Osmia</i> spp. (misc.)	LMH	37	
<i>Philanthus multimaculatus</i> Cameron	L	11		Anthophoridae			
<i>Philanthus ventilabris</i> Fabricius	L	1		<i>Ceratina</i> sp.1	L	1	
Colletidae				<i>Ceratina</i> sp.2	L	1	
<i>Dufourea</i> sp.?	L	1		<i>Ceratina</i> sp.3	L	1	
<i>Hylaeus</i> sp.	L	1		<i>Nomada</i> sp.	M	1	
Andrenidae				<i>Tetralonia</i> sp.?	M	3	
<i>Andrena</i> sp.1	H	1		Apidae			
<i>Andrena</i> sp.2	M	1		x <i>Apis mellifera</i> Linnaeus	L	2	
<i>Andrena</i> sp.3	L	2		3 <i>Bombus appositus</i> Cresson	LMH	11	
<i>Andrena</i> sp.4	M	1		3 <i>Bombus bifarius nearcticus</i> Handlirsch	LMH	5	
<i>Andrena</i> sp.5	L	6		3 <i>Bombus centralis</i> Cresson	LMH	8	

Taxon	Elevation	N	Record	Taxon	Elevation	N	Record
3 <i>Bombus fervidus</i> (Fabricius)	LH	4		Miscellaneous Unidentified Specimens:			
3 <i>Bombus flavifrons</i> Cresson	H	1		INSECTA			
† 2 <i>Bombus griseocollis</i> (DeGeer)	M	1		ODONATA			
3 <i>Bombus melanopygus</i> Nylander	M	1		Miscellaneous Odonata	H	1	
3 <i>Bombus mixtus</i> Cresson	M	1		PSOCOPTERA			
3 <i>Bombus occidentalis</i> Greene	M	1		Miscellaneous Psocoptera	LH	3	
3 <i>Bombus rufocinctus</i> Vogt	L	1		HOMOPTERA			
3 <i>Bombus vagans</i> Smith	L	2		Unidentified Psyllidae	LMH	28	
<i>Psithyrus insularis</i> Smith	L	1		COLEOPTERA			
<i>Psithyrus suckleyi</i> (Greene)	MH	3		Unidentified Corylophidae	M	1	
				Unidentified Scolytidae	MH	4	
				DIPTERA			
				Miscellaneous Diptera	H	1	
				SIPHONAPTERA			
				Miscellaneous Siphonaptera	LH	3	
				LEPIDOPTERA			
				Unidentified Pyralidae	L	2	
				Miscellaneous Lepidoptera	LM	7	
				HYMENOPTERA			
				Unidentified Ichneumonidae	L	1	
				Unidentified Cynipidae	H	1	
				Unidentified Pompilidae	LMH	142	

